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## Cigarette Use Among Arab Americans in the Detroit Metropolitan Area

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### Synopsis .....

*Use of cigarette tobacco by large proportions of the population of Middle Eastern countries has been reported; however, little is known about smoking behavior in one of America's fastest growing minorities, the Arab Americans. The purpose of this study was to examine cigarette smoking behavior of 237 randomly selected Arab American adults from a telephone listing in the Detroit*

*area. Participants lived in the geographic Arab American community and identified with a Middle Eastern cultural heritage. Nurses, who spoke both English and Arabic, interviewed one adult family member using the 59-item self-report from the Cardiovascular Risk Factor Survey developed by Rice. Mean age of respondents was 40.4 years, 97 percent had been born in the Middle East, and 67 percent had been living in the United States 15 years or less.*

*Current smokers rate was 38.9 percent, former smokers rate was 11.1 percent, never smokers rate was 50 percent, and the quit ratio (proportion of ever smokers who are former smokers) was 22.2 percent. Fifty-four percent of the current smokers were between 25 and 34 years of age; fewer women than men were former smokers, and the highest proportion of current smokers were Lebanese. Subjects who had smoked for the longest time were the least well educated. Arab Americans in this sample had a higher smoking rate, a lower quitting rate, and a much lower quit ratio when compared with national and State of Michigan data. With the growing numbers of Middle Eastern immigrants, there is potential for a dramatic increase in smoking-related health problems.*

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Cigarette smoking continues to be the largest single addiction and preventable cause of death, disease, and disability (1-4). Since the Surgeon General's 1964 report warning that cigarette smoking could be dangerous to one's health, smoking has been implicated in the development of heart disease, peripheral and cerebral vascular diseases, malignant neoplasms, and nonmalignant chronic respiratory diseases (1-4). Those who have smoked the most cigarettes in their lifetime are at the greater risk for smoking-related health problems (3,4). Although evidence suggests that there has been an overall decline in cigarette smoking in the United States from 52 percent in 1965 to approximately 29 percent in 1987 (4-7), indications are that smoking rates are higher for many American minorities (5-14).

A rapidly growing minority in the United States for which there seems to be little or no smoking behavior data is the Arab Americans. By the year

2000, conservative estimates are that there will be 12 million Arab Americans living in the United States, largely a consequence of the political, social, and economic unrest in the Middle East (15-18). Observations by nurses (19-21) who have initiated health-related studies in the Detroit-area Middle Eastern community indicate a high prevalence of tobacco use among both Arab men and women, and studies from the Middle East tend to support these observations (22-24).

World Health Organization researchers (25) rank-ordered 110 countries and territories according to tobacco consumption and indicated that many Middle Eastern areas ranked relatively high in tobacco use (for example, Lebanon was 19th; Libyan Arab Jamahiriya, 28th; Syrian Arab Republic, 47th; Yemen, 48th; Egypt, 54th; Jordan, 56th; Tunisia, 63rd; Iraq, 71st; and Monaco, 74th). Another study reported a 28 percent cigarette smoking rate in a sample of more than 9,000

Table 1. Percent distribution by smoking status and demographic characteristics of 237 Detroit area Arab Americans

Characteristics	Smoking status			
	Current <sup>1</sup>	Former <sup>2</sup>	Never <sup>3</sup>	Quit ratio <sup>4</sup>
Totals .....	38.9	11.1	50.0	22.2
Age (years):				
18-24 .....	24.0	12.0	64.0	33.3
25-34 .....	54.1	3.5	42.4	6.0
35-44 .....	37.2	9.3	53.5	20.0
45-64 .....	34.8	8.7	56.5	20.0
55-64 .....	28.9	26.4	44.7	47.7
65 and older .....	20.0	20.0	60.0	50.0
Sex:				
Men .....	40.6	20.3	39.1	33.3
Women .....	38.2	7.3	54.5	16.0
Ethnicity:				
Lebanese (N = 178) ....	43.8	10.7	45.5	24.2
Yemeni (N = 27) .....	25.9	11.1	63.0	30.0
Palestinians (N = 28) ...	22.2	11.1	66.7	33.3
Others (N = 4) .....	25.0	25.0	50.0	50.0
Education:				
No formal schooling ...	25.4	11.9	62.7	31.9
Less than high school .	41.3	14.4	44.3	25.8
High school graduate ..	56.4	7.7	35.9	12.0
Some college .....	43.5	8.7	47.8	16.6
College graduate .....	28.6	0	71.4	0
Income:				
Less than \$10,000 .....	39.7	9.6	50.7	19.5
\$10,000-\$24,999 .....	40.0	9.1	50.9	17.5
\$25,000-\$49,999 .....	30.0	23.3	46.7	43.7
\$50,000 or more .....	37.5	12.5	50.0	25.0

<sup>1</sup> Subjects who answered "yes" to question, "Do you smoke cigarettes now?"

<sup>2</sup> Subjects who answered "yes" to question, "Are you a former cigarette smoker?"

<sup>3</sup> Subjects who answered "no" to the two questions.

<sup>4</sup> Percentages of ever smokers who are former smokers.

Egyptian males ranging in age from 15 to 21 years, indicating a relatively young group of smokers (23). Other data suggest, however, that the smoking rate may be even higher when smokers of all ages are considered; a report on tobacco use worldwide from the American Medical Association (26) indicated an overall smoking rate of 40 percent for Egyptians and 58 percent for Tunisians.

An extensive search of the literature failed to reveal any studies conducted in the United States that specifically examined cigarette smoking among Arab Americans. The purpose of this study was to examine the prevalence and characteristics of cigarette smoking in a randomly selected sample of Detroit area Arab Americans.

## Methods

The data in this report were collected as part of a study which sought to examine cardiovascular risk factors in Arab Americans; details on the risk

factors other than smoking will be published at a later date. Using a table of random numbers, a sample of 244 households was selected from a telephone listing of Arab American residents in the south end of Detroit, MI. The south-end community was, and continues to be, the principal point of entry of Arabs into Michigan. Criteria for sample selection included living in the geographic Arab American community and identifying with a Middle Eastern cultural heritage.

Registered nurses, who spoke both English and Arabic, initially contacted subjects by telephone, and then conducted an in-home interview with one of the adult family members. Adults in the home decided who would meet with the nurse; in 70 percent of the homes the woman was the person interviewed. Persons who agreed to participate signed an informed consent that was available in both English and Arabic. Interviews were conducted primarily in the late afternoon and the early evening. Seven families were not able to be contacted at the phone numbers listed or refused to participate once contacted; no specific reasons were given for the refusals.

Subjects provided information for a 59-item comprehensive self-report from the Cardiovascular Risk Factor Survey (unpublished manuscript, "Development and Testing of a Cardiovascular Risk Factor Survey [CRFS]" by V. H. Rice, Wayne State University College of Nursing, Detroit, MI) which was developed for the project. The questionnaire was reviewed by three clinical nurse specialists and a cardiologist for content validity and pretested with 15 Arab American subjects for clarity and ease of response. To determine smoking status, subjects were asked if they were currently cigarette smokers, how much they usually smoked each day, and the number of years they had been smoking cigarettes. If they identified themselves as former smokers, they were asked how long it had been since they quit and the number of cigarettes they smoked per day before quitting.

## Results

Of the 237 subjects, 75 percent were of Lebanese ancestry, 11 percent were Yemeni, 11 percent were Palestinian, and 3 percent were Syrian or Iraqi. Ninety-seven percent of the subjects had been born in the Middle East; the average length of time that they had been in the United States was 12.2 years (standard deviation [SD]=9.4); 67 percent had been living in the United States 15 years or less. Seventy percent, or 167, of the sample were fe-

Table 2. Number of cigarettes smoked per day<sup>1</sup> by demographic characteristics for 91 Arab Americans (percentages)

Demographic characteristics	<10	10-20	21-40	>40
Totals	22.7	37.5	30.7	9.1
Age (years):				
18-24	16.6	66.7	0	16.7
25-34	22.2	40.0	31.1	6.7
35-44	33.3	20.0	40.0	6.7
45-64	37.5	37.5	12.5	12.5
55-64	0	30.0	50.0	20.0
65 or more	25.0	50.0	25.0	0
Sex:				
Men	23.1	23.1	38.5	15.3
Women	22.6	43.5	27.4	6.5
Ethnicity:				
Lebanese (N=77)	20.3	40.5	31.1	8.1
Yemeni (N=7)	42.8	28.6	28.6	0
Palestinians (N=6)	16.7	16.7	33.3	33.3
Others (N=1)	100.0	0	0	0
Education:				
No formal schooling	21.4	21.4	35.7	21.5
Less than high school	20.5	38.5	35.9	5.1
High school graduate	22.7	36.4	31.8	9.1
Some college	11.1	66.7	11.1	11.1
College graduate	75.0	25.0	0	0
Income:				
Less than \$10,000	21.2	34.6	36.5	7.7
\$10,000-\$24,999	27.3	31.8	22.7	18.2
\$25,000-\$49,999	25.0	37.5	37.5	0
\$50,000 or more	33.3	66.7	0	0

<sup>1</sup> Reflects categorization of subjects responses to question, "How much do you usually smoke each day?" This question was only asked of current smokers.

males and 30 percent, or 70, were males. Mean age for the sample was 40.4 years, SD = 15.0.

For smoking status, 38.9 percent were current cigarette smokers, 11.1 percent were former smokers, 50 percent had never been smokers, and the overall quit ratio (proportion of ever smokers who are former smokers) was 22.2 percent (table 1). Of those who had quit, 67 percent reported quitting within the previous 5 years, and the largest proportion of the quitters (42 percent) had smoked between one-half and one pack per day.

Statistical examination of smoking status by demographic characteristics revealed group differences based on age, sex, and ethnicity. Proportionally more of the current smokers (54.1 percent) were in one of the youngest (25-34 years) age groups, and more of the former smokers (46.4 percent) were in the two oldest age groups (55-64 years, 65 years and older). Analysis of variance for age showed significant mean differences by smoking status ( $P < .002$ ). Mean age for current smokers was 37.7 years (SD=13.4); for former smokers 49.2 years (SD=17.2); and for never smokers 40.6 years (SD=15.1).

Proportionally more men (20.3 percent) than women (7.3 percent) reported being former smokers,

*'Among those who had smoked for 16 years or more were 86.7 percent of persons with no formal schooling and 40 percent of those who had less than a high school education; the percentage of subjects who had been smoking that long decreased as the level of education increased.'*

ers, and more women (54.5 percent) than men (39.1 percent) reported being never smokers. No sex differences were found, however, for the percentages of current smokers; 40.6 percent were men and 38.2 percent were women. On ethnic identity, 43.8 percent of the current smokers were Lebanese, 25.9 percent were Yemeni, and 22.2 percent were Palestinians (table 1).

Analysis of strength of habit by demographic characteristics indicated that the majority of the smokers (68.2 percent) consumed between one-half and two packs per day; 22.7 percent smoked less than half a pack per day, and a little more than 9 percent smoked more than two packs per day (table

Table 3. Duration of smoking habit by demographic characteristics for 91 Arab Americans <sup>1</sup> (percentages)

Demographic characteristics	Less than 2 years	2-5 years	6-10 years	11-15 years	16 or more
Totals	4	19	18	15	44
Age (years):					
18-24	16.7	33.3	50.0	0	0
25-34	4.3	26.1	28.3	23.9	17.4
35-44	0	12.5	6.3	12.5	68.7
45-64	0	12.5	0	12.5	75.0
55-64	0	0	0	0	100.0
65 or more	0	0	0	0	100.0
Sex:					
Men	7.1	10.7	10.7	10.7	60.8
Women	1.6	22.2	22.2	17.5	36.5
Ethnicity:					
Lebanese (N = 77)	2.6	18.2	18.2	15.5	45.5
Yemeni (N = 7)	14.3	28.6	0	14.3	42.8
Palestinians (N = 6)	0	16.7	33.3	16.7	33.3
Others (N = 1)	0	100.0	0	0	0
Education:					
No formal schooling (N = 15)	0	6.7	0	6.7	86.7
Less than high school (N = 40)	7.5	22.5	15.0	15.0	40.0
High school graduate (N = 22)	0	9.1	31.8	27.3	31.8
Some college (N = 10)	0	30.0	40.0	0	30.0
College graduate (N = 4)	0	50.0	0	25.0	25.0
Income:					
Less than \$10,000	3.7	22.2	18.5	11.1	44.5
\$10,000-\$24,999	4.5	9.2	18.2	13.6	54.5
\$25,000-\$49,999	0	22.2	22.2	33.3	22.3
\$50,000 or more	0	33.3	34.0	33.3	0

<sup>1</sup> Reflects categorization of subjects responses to question, "How many years have you been smoking?" This question was only asked of current smokers.

*... that the highest proportion of current smokers were in the 25-34 year age group, that significantly fewer women than men were among the former smokers, and that the highest proportion of current smokers were of Lebanese ethnicity.'*

2). Combining subjects who smoked more than a pack per day revealed that proportionally more Palestinians (66.6 percent) reported smoking that much each day compared with the Lebanese (39.2 percent) and the Yemeni (28.6 percent).

Examination of duration of smoking habit by demographic characteristics indicated significant group differences for age, sex, and education. Forty-four percent of the smokers had been smoking for 16 years or more and, as might be expected, subjects who had been smoking that long were in the oldest age groups (table 3). Men tended to have been smokers longer than the women; 60.7 percent of the men versus 36.5 percent for the women had

been smoking for 16 years or more. Among those who had smoked for 16 years or more were 86.7 percent of persons with no formal schooling and 40 percent of those who had less than a high school education; the percentage of subjects who had been smoking that long decreased as the level of education increased.

## Discussion

The metropolitan area of Detroit has the largest concentration of Middle Eastern peoples in the United States; current estimates place that number between 200,000 and 250,000 (15-18,27). A demographic profile of the immigrants indicate a relatively young population (median age = 23.2 years), male, with little education, seeking work in American's industries (15,17,27). Peoples of other cultures who immigrate tend to bring with them the daily habits of their homelands, and it seems that for many Arab Americans these habits include cigarette smoking. Findings from this study of a randomly selected Detroit-area sample of Arab American adults indicate a current smoking rate of 38.9 percent, a former smoking rate of only 11.1

percent, a never smoking status of 50 percent, and a quit ratio of 22.2 percent.

Additional findings show that the highest proportion of current smokers were in the 25-34 year age group, that significantly fewer women than men were among the former smokers, and that the highest proportion of current smokers were of Lebanese ethnicity. No demographic differences were found for strength of habit, but length of smoking habit was positively related to age (as might be expected, smokers who were oldest also had been smoking longest) and level of education; those who had smoked for the most number of years were the least educated.

Comparisons of these findings with those of the 1987 National Health Interview Survey (28) and the 1990 Michigan Behavioral Risk Factor Survey (29) showed a number of smoking status differences for the Arab Americans. For the United States and Michigan, the percentages of smoking status are as follows:

<i>Smoking status</i>	<i>National</i>	<i>Michigan</i>
Current.....	28.9	29.2
Former .....	23.0	25.5

In this study, the current smokers' rate was considerably higher at 38.9 percent and the former smokers' rate considerably lower at 11.1 percent. There were no differences in the never smokers' rates among the three samples. The disparity in current and former smoking status is evident in the quit ratios for the three samples: nationally, the quit ratio was 44.8 percent; at the State level, 46.6 percent; and in the Arab American sample, only 22.2 percent. Consistent with national and Michigan smokers' rates, the Arab American age group with the highest number of current smokers was the 25- to 44-year-olds. Findings from all three studies showed that the number of former smokers as well as the quit ratios increased with age.

By sex, there were no differences in current smoker and never smoker rates across the three studies, but among the Arab Americans, fewer men (20.3 percent) and even fewer women (7.3 percent) were in the former smokers category. This was also reflected in the lower quit ratios for the Arab American men (33.3 percent) and women (16.0 percent) compared with the ratios at the national level for males (48.7 percent) and females (40.1 percent) and the State of Michigan ratios, 49.1 percent for men and 43.6 percent for women.

Although a direct positive relationship between the status of current smoker and being less well educated was not found in this study as in the

national and Michigan data, a relationship was found between the duration of one's smoking habit and one's education. Subjects who reported that they had been smoking for the longest period (16 years or more) were also the least well educated. Consistent with the data of the other two studies, people who were better educated smoked for the fewest number of years.

This study shares the limitations of other studies of smoking behavior that rely solely on self-reports; persons may over- or under-estimate their smoking activities. It is highly unlikely, though, that someone would report that they are a smoker when they are not, given the current pressure from society to be a nonsmoker.

Another concern is the disproportionately higher number of women to men (2.4 to 1 ratio) among the Arab American sample; this population in Michigan is reported to be 54 percent male (28). This disparity in sex distribution of the sample is probably a consequence of the timing of data collection. Women tended to be at home in the late afternoon when the data collectors made contact. Selecting subjects from the local telephone directory helped us to identify peoples of Middle Eastern heritage, but also eliminated potential subjects who did not have a telephone.

Another limitation lies in comparing data from this study with that of the nation (28) and the State of Michigan (29); it is probable that Arab Americans were participants in both of those studies but not identified separately as were blacks and Hispanics. Abraham and Abraham (16,17) described Arab Americans as a "non-legal" ethnic minority because they are overlooked by Federal and local governments when defining eligibility requirements for specific government programs and, as a consequence, data for this population are usually included with that of other white Americans. Given this circumstance, it is possible that Arab American smokers are contributing significantly to Michigan's current position of having the "second worst cigarette smoking prevalence rate in the nation, according to the Centers for Disease Control" (Michigan Department of Public Health news release, January 15, 1992).

Further research is needed. To get a better sense of how smoking behavior differs for immigrant Arab Americans, it will be necessary to make comparisons with population data which do not include that of Arab Americans. Studies are also needed among nonimmigrant Arab Americans to see if their smoking behavior is similar to that of immigrant Arab Americans, of other U.S. popula-

tions, or of Middle Eastern Arabs.

In conclusion, findings from this study indicate a higher percentage of Arab Americans are current smokers, and fewer are former smokers than is evident in the general population. Differences exist by age, sex, education, and ethnicity. With the growing numbers of persons from the Middle East immigrating to this country who may be cigarette smokers, there is potential for a dramatic increase in smoking-related health problems.

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