

# J. PREDICTORS OF TOBACCO USE AMONG LEBANESE, YEMENI, AND IRAQI ADOLESCENTS, 14–18 YEARS OF AGE

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## INTRODUCTION

This research examined tobacco use predictors in three Arab ethnic groups (Lebanese, Yemeni, and Iraqi) by using data from a convenience sample of 1271 Arab-American adolescents (ages 14 to 18 years) by their country of origin. The Adolescent Tobacco Use Model<sup>1</sup> and the mediating and moderating variable listed in the introduction guided the selection of the predictors.

## BACKGROUND

Tobacco use has been identified as the single most important source of preventable morbidity and premature death in all of the Surgeon General reports since 1964.<sup>2–4</sup> In America, more than 430,000 premature deaths occur each year from smoking-related health problems, such as coronary artery disease, chronic obstructive pulmonary disease, stroke, and many forms of cancer (including lung). Tobacco-related deaths and disabilities are epidemic worldwide as a result of the continued use of tobacco, mainly cigarettes.<sup>5</sup> If 100% of current youths never smoke, tobacco-related morbidity and mortality could disappear in a single generation.<sup>6</sup> In 2002, a total of 13.3% of middle school students reported current use (in last 30 days) of any tobacco product. Among high school students, 28.4% reported current use. Every day in America some 44,000 youths between the ages of 12 and 17 years light their first cigarette.<sup>7</sup>

Average teenagers begin tobacco experimentation before the age of 14.<sup>8</sup>

Contributing to tobacco use rates in Michigan is a rapidly growing Arab-American immigrant population—close to 400,000 Arab Americans live in Michigan.<sup>9,10</sup>

In 1995, an estimated 44% of men and 5% of women in the Middle East were regular tobacco users. Nations with the highest adult use included Iraq (40%), Palestine (48%), Kuwait (52%), Saudi Arabia (53%), Lebanon (58%), Jordan (65%), and Tunisia (76%); 80% of the world's smokers are in developing countries like those in the Middle East.<sup>11</sup> Tobacco use figures have been increasing in recent years, especially among young adults and women, and are expected to continue to rise in the coming decades if no serious control efforts are developed in this region. In recent years, tobacco use has taken a culturally specific turn in the form of sheesha/narghile smoking.<sup>12</sup> This social behavior, which used to be a relatively confined one, is now becoming popular and socially acceptable, especially among young adults, including women.

Although persons of Middle-Eastern descent tend to be viewed as a single population, many tobacco use patterns differ, especially among youth. For instance, smoking rates for Lebanese youth in the Middle East are 33.7% for boys and girls. The Yemeni adolescent rates are 22.7% for boys and 4.0% for girls, and the Iraqi rates are 21.1% for boys and 7.6% for girls.<sup>13–15</sup> No specific data are available for narghile use among these youth.

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An Adolescent Tobacco Use Model (ATUM)<sup>1</sup> directed the proposed study. It identifies moderating and mediating forces found to influence tobacco use in adolescents. Components are personal, sociocultural, and environmental. Personal factors include demographics (age, sex, socioeconomic status), tobacco use behavior (intention to use tobacco, tobacco use history, and strength of addiction), school grades, stress, self-esteem, self-efficacy, perceived health, and barriers to tobacco non-use. Sociocultural influences are country of origin, family and peer tobacco use, and social support. Environmental conditions include hours of exposure to secondhand smoke in and out of the home and availability of and advertising contact with tobacco products.

## METHODS

### Sample

A sample of 1271 Arab-American adolescents (14 to 18 years of age) self-identifying as Lebanese ( $N=619$ ), Yemeni ( $N=349$ ), or Iraqi ( $N=303$ ) and attending one of two high schools (which obtained approved informed consent from parents through the mail) provided data on the ATUM profile variables. Boys were 52% of the total sample and girls were 48%. The average age was 15.5 years ( $SD=1.6$ ). Sixty-four percent of the sample were Lebanese, 20% Yemeni, and 16% Iraqi; 52% of the youths were born in the Middle East and 51% spoke Arabic as the primary language at home. The study measures described in the introduction were used to obtain data from all participants.

## RESULTS

The results are comparisons among all three of the Arab groups on each of the predictors. Significantly more men were Yemeni (67%), versus 42% each in the other two groups ( $P=.04$ ); Yemeni adolescents had significantly lower fam-

ily incomes ( $P=.001$ ). No differences were noted in the ages of the students in the samples, but Yemeni students had lower school grades ( $P=.001$ ). English was spoken more often (53%) and was the first language in significantly more Lebanese homes (53%). More Lebanese youths (48%) were born in the United States than Yemeni (25%) or Iraqi (10%) adolescents were. Depression was higher ( $P=.001$ ) and self-esteem was lower ( $P=.04$ ) among the Yemeni and Iraqis than the Lebanese. No other differences were noted on the personal variables.

On tobacco use in the family, significantly more fathers (38%) and mothers (34%) smoked in the Lebanese families, and more fathers (36%) smoked in the Iraqi families than either parent in Yemeni families (17% and 3%, respectively). More Lebanese brothers (14%) and sisters (4%) and more Iraqi brothers (14%) smoked than Yemeni siblings, with 9% and 3%, respectively. The exposure to one or more hours of secondhand smoke was significantly higher in the Lebanese (47%) and Iraqis (40%) versus the Yemeni (26%).

No differences were found in reported availability of tobacco. Only Lebanese reported being aware of targeted advertising. Lebanese youths were significantly more likely to have ever smoked (29% vs 23% and 22%,  $P=.01$ ), to be at risk of developing a habit (22% vs 17% and 15%) and to have used the narghile (32% vs 16% and 11%, respectively). No differences in reported tobacco use in the last 30 days (6%, 6%, and 2%, respectively) were found.

A logistic regression model revealed that Iraqi youths born in the United States were 10.5 times as likely to be a smoker. Those receiving tobacco mail advertising were more likely to smoke. Yemeni adolescents exposed to smoking outside the home more than one hour a day were 32 times more likely to have smoked in the past 30 days. Iraqi and

Yemeni teens with mothers who smoked were 5.7 and 3.6 times, respectively, more likely to have used the narghile. Iraqi youths with poor grades were 4.4 times more likely to have used the narghile. Overall, youth with the highest odds for smoking had: 1) used the narghile ( $OR=16.50$ ); 2) siblings who smoke ( $OR=4.45$ ); 3) one or more friends who smoke ( $OR=12.76$ ); 4) tobacco offered by family and friends ( $OR=5.76$ ); 5) reported being male ( $OR=3.77$ ); and 6) reported higher depression ( $OR=3.03$ ).

## CONCLUSIONS

Tests by country of origin showed Lebanese youths were significantly more likely to have: 1) ever smoked; 2) used the narghile; 3) have parents who smoked; 4) lived in this country longer; 5) had more offers of tobacco each week; and 6) been exposed to more hours of secondhand smoke. Yemeni teens reported higher depression, and both Yemen and Iraqi youths had lower self-esteem. Other psychosocial variables did not differ by group. Yemeni had lower school grades, and the Iraqis had lower incomes. The Lebanese reported use of English more often in the home, and they appeared to be the most acculturated. They had more smoking among family members and more hours of exposure in and out of the home. They also experienced more offers of tobacco and more tobacco mail. No differences in tobacco use among the three groups for the last 30 days were found.

## LIMITATIONS

Limitations include: 1) almost three times as many Lebanese than either of the other two groups; and 2) limited information on other cultural differences and acculturation. A more detailed assessment is needed to determine cultural differences in depth and whether they are large enough to warrant special

smoking cessation/prevention treatment.

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