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The Detroit Youth Tobacco Survey: Results from Middle School Students

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ABSTRACT:

Background: The Detroit Youth Tobacco Survey (DYTS) provided representative data from middle school students, 84.7% of whom were African-American/Black, on self-reported prevalence of tobacco use and awareness, smoking cessation, peer and family influence, environmental tobacco smoke, media exposure and access to tobacco.

Results: Over half of the students (53.0%; +/-4.1) used some form of tobacco at least once, with the majority trying cigarettes (47.5%; +/-3.9) and about a quarter (23.1%; +/-3.5) trying cigars. Ten percent (10.2%; +/-2.3) tried bidis or kreteks, and 7.4% (+/-1.4) tried smokeless tobacco. Of middle school students who smoked, nearly one out of four (23.2%; +/-3.1) had their first cigarette before age eleven. Smokers were more likely to have parents who smoked. The majority of middle school students who smoked would like to quit. A third had practiced ways to say “no” to tobacco at school and a quarter had participated in a community event discouraging them from using tobacco.

Conclusion: Additional consideration should be given to innovative strategies for middle school students for smoking prevention, reduction of tobacco use and minimizing exposure to environmental tobacco smoke.

Key Words: tobacco and youth, tobacco and middle school students, tobacco and African American youth

INTRODUCTION:

The U.S. Surgeon General’s Report Preventing Tobacco Use Among Young People noted the vulnerable adolescent ages of 10 through 18 years for smoking initiation. The Report suggested psychosocial risk factors for initiating tobacco use among children and adolescents usually progress through stages in a process which generally takes about three years (US HHS, 1994).

The National Youth Tobacco Survey (NYTS) was designed to provide a baseline for comparing progress toward meeting the Healthy People 2010 goals for reducing tobacco use among youth.
The NYTS began in 1999 and has been conducted bi-annually since 2000. It is administered in middle schools and high schools. This national survey is representative of students in the 50 States and the District of Columbia (CDC, 2000; CDC, 2003; CDC, 2005).

As the designated public health agency for Detroit, the Department of Health and Wellness Promotion (DHWP) responsibilities include identifying health risks, educating the public, preventing and controlling disease, injury and exposure to environmental hazards. DHWP is a Michigan Department of Community Health accredited local public health agency (Detroit, 2007). DHWP, in collaboration with the City of Detroit Public Schools and the Center for Population Health at the Southeastern Michigan Health Association, worked with the Centers for Disease Control and Prevention (CDC) to conduct a city YTS survey in 2000 for Detroit middle and high school students. In 2000, Detroit was the tenth largest city in the United States and the first city to conduct a YTS (Detroit, 2002; Detroit, 2001).

Significance

From a local public health perspective, the Detroit YTS is important because it is the only comprehensive survey providing data on tobacco use by Detroit public middle school students, the majority of whom are African-American or Black. This paper will focus on the results from the middle school sample. Given the vulnerability of middle school youth, reflection on the results from the Detroit YTS is particularly important to understanding why youth begin to smoke and finding ways to prevent them from starting.

Survey Design and Content

DHWP and the Detroit Public School District, with the technical assistance of the CDC, used a statistically-based sampling method to yield a representative sample of 22 middle and 22 high schools from across the City. The sample included approximately a fourth of all schools within City limits. All students within randomly selected classes were eligible to participate.

The anonymous, self-administered survey was developed by the CDC Office of Smoking and Health. It included questions about tobacco use, exposure to environmental tobacco smoke, minor’s ability to purchase or obtain tobacco products, knowledge and attitudes about tobacco, and familiarity with pro- and anti-tobacco media messages. Current use of bidis, cigarettes, cigars, kretexs, pipes and smokeless tobacco was defined as use on one or more of the 30 days preceding the survey. Current tobacco use was defined as use on one or more of the 30 days preceding the survey.

RESULTS:

Although middle school and high school students were surveyed, only the data from the middle school students are presented here. There were 1,940 middle school students who completed the survey. Middle school grade composition was 35.5% sixth graders, 33.2% seventh graders, and 31.3% eighth graders. Survey demographics are provided in Table 1. Slightly more than half were female (50.2%) and 49.7% were male. The majority (84.7%) were African-American or
Black. Almost ten percent were equally divided between White (4.7%) or Hispanic/Latino (4.7%).

Table 1: Detroit Youth Tobacco Survey  
Middle School Students Demographics

<table>
<thead>
<tr>
<th>Gender</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>974</td>
</tr>
<tr>
<td>Male</td>
<td>966</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Black or African-American</td>
<td>1643 (84.7%)</td>
</tr>
<tr>
<td>White</td>
<td>90 (4.7%)</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>90 (4.7%)</td>
</tr>
<tr>
<td>American Indian/Alaska Native</td>
<td>52 (2.7%)</td>
</tr>
<tr>
<td>Asian</td>
<td>49 (2.5%)</td>
</tr>
<tr>
<td>Hawaiian/Other Pacific Islander</td>
<td>16 (.8%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grades</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sixth Grade</td>
<td>689 (35.5%)</td>
</tr>
<tr>
<td>Seventh Grade</td>
<td>644 (33.2%)</td>
</tr>
<tr>
<td>Eighth Grade</td>
<td>607 (31.3%)</td>
</tr>
</tbody>
</table>

Results from the eight major categories of the survey are presented in three groups: (1) Prevalence, Smoking Cessation and Access to Tobacco, (2) Susceptibility and Media Exposure and (3) Tobacco Awareness, Family/Peer Influence and Environmental Tobacco Smoke.

Because this was a sample survey, results are reported with confidence intervals. A 95% confidence indicates that the actual percentage lays somewhere between the upper and lower bounds of this interval for the entire school population. For example, if a percentage is reported as 19.7 (+/-5.0), the actual percentage is somewhere between 14.7% and 24.7%.

Prevalence, Smoking Cessation and Access to Tobacco

Over half (53.0%; +/-4.1) of all middle students in Detroit had used some form of tobacco at least once and one in ten was a current smoker. In contrast, nationally only one in eight middle school students reported using some form of tobacco (American Legacy Foundation, 2004). Nearly one out of four (23.2%; +/-3.1) middle school students who ever smoked began before age eleven. As displayed in Table 2, slightly more male than female youth reported smoking before age eleven.
The majority of students tried cigarettes (47.5%; +/-3.9) and slightly less than a quarter (23.1%; +/-3.5) tried cigars. Among those who smoked cigarettes, about half (54.1%; +/-6.0) of them usually smoked menthol cigarettes. Table 3 shows male students report slightly more tobacco use than their female counterparts. Less than two percent (1.7%; +/-0.7) of Detroit middle school students were frequent smokers who smoked cigarettes on 20 of the last 30 days. This compares to 2.7% of middle school students nationally (CDC, 2000).

Less common forms of tobacco use were included in the survey. Ten percent (10.2%; +/-2.3) tried bidis (i.e., small brown cigarettes from India) or kreteks (i.e. clove cigarettes), and a few (7.4%; +/-1.4) tried smokeless tobacco.
Table 3:  Detroit YTS Middle School Students
Percent Ever Smoked Cigarettes by Gender

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smokers ever</td>
<td>49.0%</td>
<td>46.0%</td>
</tr>
</tbody>
</table>

The majority of current smokers believed that they could stop smoking at any time, but as shown in Table 4, quitting may sound easier than it really is. Over half of current smokers said that they wanted to quit smoking and almost half have tried at least once in the past year. Only a fifth of current tobacco users have participated in programs to help them stop using tobacco.

Access to tobacco was not as difficult as one may have expected for middle school youth. As shown in the table only a fourth of the students who tried to buy cigarettes in the past month were asked for proof of age. Less than half were refused purchasing cigarettes in stores.

Table 4:  Detroit YTS Current Middle School Student Smokers:
Smoking Cessation and Access to Tobacco

<table>
<thead>
<tr>
<th></th>
<th>Percent</th>
<th>+/-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Say they want to stop smoking cigarettes</td>
<td>58.9</td>
<td>8.7</td>
</tr>
<tr>
<td>Have tried to quit smoking at least once in the past year</td>
<td>46.7</td>
<td>7.4</td>
</tr>
<tr>
<td>Tried to quit smoking at least twice in their lifetimes</td>
<td>34.4</td>
<td>9.4</td>
</tr>
<tr>
<td>Asked for proof of age when buying cigarettes from a store</td>
<td>24.9</td>
<td>10.1</td>
</tr>
<tr>
<td>Were refused cigarettes in store because of their age</td>
<td>44.6</td>
<td>13.4</td>
</tr>
</tbody>
</table>

Susceptibility and Media Exposure

Students were just as likely to see pro-tobacco messages as anti-tobacco messages. Most students, 85.1% (+/-2.1) saw tobacco ads on the Internet, television, or in movies some or most of the time and 76.9% (+/-3.2) had seen or heard an anti-smoking commercial in the past 30
days. Current smokers were almost four times as likely to be receptive to tobacco advertising: almost twenty percent (19.7%; +/-4.2) of current smokers were receptive to tobacco ads, compared to about five percent (5.3%; +/-1.7) of nonsmokers. Despite reporting being less receptive, students who had never smoked reported that they would use/wear tobacco products. This finding was more prominent for males (23.0%; +/-4.0) than females (17.1%; +/-3.1).

As shown in Table 5, the majority of those who did not smoke expected to stay that way. Fewer than 6% of the nonsmokers thought they would try a cigarette soon or within the next year. However, as they projected longer into the future, there was a slight increase to 6.3% (+/-1.8) who thought they would be smoking five years from now. Additionally, over 40% (43.9%; +/-8.2) of current middle school smokers expected that they would still be smoking in five years.

Table 5: Detroit YTS Middle School Students
Never Smokers and Susceptibility to Smoking

<table>
<thead>
<tr>
<th>Never smoked who will try cigarette soon</th>
<th>Never smoked who think they will smoke cigarettes next year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent +/- Percent</td>
<td>Percent +/- Percent</td>
</tr>
<tr>
<td>Male</td>
<td>5.9 +/- 2.4</td>
</tr>
<tr>
<td>Female</td>
<td>5.5 +/- 2.4</td>
</tr>
<tr>
<td>Total</td>
<td>5.7 +/- 1.9</td>
</tr>
</tbody>
</table>

Tobacco Awareness, Peer/Family Influence, and Environmental Tobacco Smoke

Most middle school students believed that tobacco is harmful and addictive, whether they currently smoked or not. Over three quarters, or 75.8% (+/-2.9) of middle school students believed that young people risk harming themselves if they smoked between 1 and 5 cigarettes a day, and the majority (85.4%; +/-2.9) thought people can get addicted to tobacco just like cocaine or heroin. Slightly more than a third or 37.5% (+/- 4.1) of middle school students had practiced ways to say “no” to tobacco at school within the survey year. An even lower percentage, (24.5%; +/-3.6) had participated in a community event to discourage young people from using tobacco.

Middle school students who smoked were approximately twice as likely to believe that smoking looks cool and that smokers have more friends. Slightly more than a quarter, or 26.1% (+/-5.8) of current smokers thought that smoking looks cool, compared to only 10.4% (+/-1.3) of middle school students who did not smoke. Middle school students who were current smokers reported having more friends (44.0%; +/-6.8), compared to only 20.5% (+/-4.0) that do not smoke.

Students who smoke were more likely to have parents who smoke. About 68.0% of middle school students who smoke reported that they had a parent that smokes, compared to 54.7% of those who do not smoke. The majority of students had spoken with their parents about tobacco. About two-thirds of the students (67.2%; +/-2.6) had been told by at least one parent or guardian that tobacco is dangerous.
Environmental Tobacco Smoke (ETS) is an issue for all middle school students and the majority (80.3%; +/-2.9) believed that ETS is harmful, whether they smoked or not. Over one-third of students who didn’t smoke were exposed to ETS at home and with peers. Almost two-thirds (61%; +/-5.8) of those who currently used tobacco lived with someone who smokes, compared to 42.1% (+/-5.4) of students who have never smoked. Almost twice as many current tobacco users rode in a car with someone who was smoking on more than one day in the past week as those who had never smoked.

DISCUSSION:

The results of the Detroit Youth Tobacco Survey suggest that tobacco use among middle school students is an important public health issue for the Detroit community. Over half of all middle school students reported using some form of tobacco at least once, most often menthol cigarettes. About one in ten was a current smoker; greater than the national sample of one in eight middle school students. Of middle school students who smoke, nearly a fourth had their first cigarette before age eleven.

As found in national surveys of middle school students, cigarettes and, to a lesser extent, cigars were the most predominant form of tobacco use. However, Detroit led the nation in the number of middle school students who have tried bidis or kreteks. Nationally, less than three percent of middle school students had reported using these novel tobacco products. In Detroit, this figure was slightly over ten percent. This finding suggests an emerging public health problem among youth, particularly in Detroit.

The Detroit Youth Tobacco Survey results also provide a rich picture of the challenges faced by middle school students from peers and family, and in home and social environments. Over half of middle school students who smoke would like to quit, however, only a fifth of them had participated in programs designed to assist them in quitting. Less than a quarter of all middle school respondents had participated in a community event discouraging young people from using tobacco and only a third had practiced ways to say “no” to tobacco at school. Although the majority of students believed that smoking was harmful and addictive, a fourth of those who currently smoke believe that smoking makes them look cool and that smokers have more friends.

Familial influence appears to play a role in smoking. Studies indicate that twelve year olds of parents who smoke are about twice as likely to begin smoking between the ages of thirteen and twenty-one as those whose parents do not smoke. Three-fifths of smokers compared to two-fifths of non-smokers lived with a smoker.

LIMITATIONS:

This study has several limitations. Despite precautions to ensure anonymity, the survey relied on self-report data. There was no way to ascertain the role social desirability played in answering the questions. Also, only currently enrolled Detroit Public School students who were present on the day of the survey completed the YTS. Private and alternative schools in Detroit did not participate in this survey. Thus these findings may not generalize to all middle school students.
in general. Lastly, the survey only included limited items on external factors that may help elucidate causal factors for early tobacco use. These factors would be important in the targeting and design of prevention and smoking cessation interventions.

**DIRECTIONS FOR FUTURE STUDY:**

Future study is needed to examine the role of ethnicity in youth tobacco use. Results from the 2002 NYTS reported that African-American students in middle school were more likely to report “ever smoking” (37 percent) than White (31%), Hispanic (35%), or Asian-American (24%) (American Legacy Foundation, 2004). Research with African-American students in a rural middle school suggested that smoking identity may start as soon as middle school and that school-based culturally conscious smoking prevention and cessation programs could be used to reach both students and parents to potentially alter adolescent smoking habits (Muilenburg, Johnson & Kohler, 2006). Other studies suggested more research needs to be conducted to learn about environmental factors in urban communities that either facilitate smoking or act as barriers to cessation for African middle school students who will become young adults (Kelder, Prokhorov, Barrsos, Murray et al., 2003; Stillman, Bone, Avila-Tang, Smith et al., 2007).

Innovative intervention approaches that target middle school youth should be explored. In addition to schools, community service providers are important resources. One example is well child screening and education. U.S. Preventive Services Task guidelines recommend children and adolescents have an annual health care visit during which time all patients should receive confidential preventive services, including being screened, educated and counseling on health risk behaviors such as alcohol and tobacco use (IoM, 2007). In Medicaid Health Management Organizations that serve Wayne County, in which the City of Detroit is located, 65 – 82% of the two middle school age groups have annual well-child visits (Michigan, 2006). At a recent Michigan public health conference session on enhancing tobacco reduction in pediatrics, it was noted 50% of adolescent smokers have well-child visits (Peterson, 2007). These visits offer the opportunity for physicians to query youth about the extent to which tobacco is used in the child’s home, including use by parents, siblings and other family members, and to encourage smoke-free homes (IoM, 2007).

Further analysis and dissemination of the Detroit Youth Tobacco Survey could provide valuable in providing data for full implementation of evidence-based strategies and policy development, particularly for African-American urban youth, their families and communities.

A complete copy of the Detroit Youth Tobacco Survey report is available from the City of Detroit Department of Health and Wellness Promotion, 1151 Taylor, Detroit, Michigan 48201, or the Center for Health Promotion, Southeastern Michigan Health Association, 3011 West Grand Boulevard, Suite 200, Detroit, Michigan, 48202. The authors would like to encourage other large cities to join Detroit and New York City in implementing the Youth Tobacco Survey in their city. Communication should be sent to Dr. Calvin Trent at the City of Detroit Department of Health and Wellness Promotion.

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REFERENCES:


