Bidi Use Among Urban Youths—Massachusetts, March-April 1999

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Tobacco use is the leading preventable cause of death in the United States. Bids are small, brown, hand-rolled cigarettes primarily made in India and other southeast Asian countries consisting of tobacco wrapped in a tendu or temburl leaf (Diospyros melanoxylon). In the United States, bids are purchased for $1.50-$4.00 for one package of 20 and are available in different flavors (e.g., cherry, chocolate, and mango). Anecdotal reports indicate that bidi use was first observed during the mid-1990s and seems to be widespread among youth and racial/ethnic minority adolescents. This report summarizes preliminary data collected from a convenience sample of adolescents surveyed during March and early April 1999 in Massachusetts on the prevalence of bidi use among urban youth; these data indicate that of 642 youth surveyed, 40% had smoked bids at least once during their lifetimes and 16% were current bidi smokers.

The Massachusetts Tobacco Control Program conducted a pilot study to assess adolescents' knowledge and use of bids. A convenience sample included a school- and community-based survey of youth from a large metropolitan area in Massachusetts. Peer leaders from a local tobacco-use prevention program and their adult advisors were granted access to three middle schools and seven high schools through professional networks (e.g., contact with the principal, health teacher, and nurse). Participants were given a set of standardized instructions and informed consent was obtained. Students surveyed in school were from health, science (e.g., biology, chemistry, and computer science), language (e.g., English or English as a second language), and history classes. After completing the surveys, participants were briefed about the intent of the survey.

Community respondents were compared with school respondents. A greater proportion of community respondents reported heavy and past-month bidi use than school respondents. Community respondents also were more likely to be Hispanic and less likely to be white than school respondents. Analyses conducted by grade and race/ethnicity on two results (current and heavy bidi use) indicated no significant differences.

A total of 822 respondents participated in the study: 108 surveys with incomplete or inconsistent responses were eliminated. Of those 642 participants whose self-reported grade was seven through 12, 342 (55%) girls and 282 (45%) boys completed surveys (18 respondents did not report sex); 341 (53%) were surveyed in schools and 299 (47%) were surveyed in the community (two surveys were missing setting information); 232 (36%) were Hispanic, 220 (34%) were black (non-Hispanic), 82 (13%) were white (non-Hispanic), and 108 (17%) were other.

Current bidi users were defined as having "smoked more than one bidi in the last 30 days." Lifetime bidi smokers were defined as having "smoked a bidi, even just one or two puffs." Heavy bidi smokers were defined as having "smoked more than 100 bids in their lifetime." Data were analyzed using Statistical Package for the Social Sciences (SPSS) version 7.5. Prevalence of bidi use was compared by sex, race/ethnicity, grade, and overall.

Two hundred fifty-six (40%) of the respondents had ever smoked bidis, 100 (16%) were current bidi users, and 50 (8%) were heavy bidi users. There were no significant differences in bidi use by sex, grade, or race/ethnicity. Responses (n = 280) to the question why bids were smoked instead of cigarettes included bidis tasted better (63 [23%]), were cheaper (49 [18%]), were safer (37 [13%]), and were easier to buy (33 [12%]). Other reasons included "just to try it" (20 [7%]), "to improve my mood" (17 [6%]), "it makes me look cool" (16 [6%]), "my friends smoke them" (four [1%]), "smoke them in place of cigarettes or marijuana" (four [1%]), "like the flavor" (three [1%]), and other (34 [12%]).

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CDC Editorial Note: When tested on a standard smoking machine, bids produced higher levels of carbon monoxide, nicotine, and tar than cigarettes1-3; one study found that bidis produced approximately three times the amount of carbon monoxide and nicotine and approximately five times the amount of tar as cigarettes.4 Because of low combustibility of the tendu leaf wrapper, bidi smokers inhale more often and more deeply, breathing in greater quantities of tar and other toxins than cigarette smokers.5-6 Like all tobacco products, bids are mutagenic and carcinogenic.6 Bidi smokers risk coronary heart disease,7 cancers of the oral cavity, pharynx, larynx,8-9 esophagus, stomach, and liver.9 Perinatal mortality is also associated with bidi use during pregnancy.10

The findings in this report are subject to at least five limitations. First, the
external validity of this study may be limited by convenience sampling and may not represent the prevalence of bidi use among all students in these schools and communities. More representative surveys are needed to develop precise estimates of bidi use and to monitor trends over time. Second, participants surveyed in the community may have been subject to selection bias; peer leaders may have been more likely to approach those similar to them in age and race/ethnicity. Because most peer leaders were racial/ethnic minorities aged <16 years, the convenience sample surveyed in the community reflects these demographics. Third, the extent of underreporting and overreporting of bidi use cannot be determined. Fourth, the number or characteristics of students who refused to participate is not known. Finally, the sample was drawn from one large metropolitan area and may not represent persons from other urban areas in Massachusetts or the rest of the United States.

This investigation was the first in the United States to estimate the prevalence of bidi smoking among students in grades seven through 12. Preliminary findings from this study support the need for additional research on bidis, particularly on smoking prevalence among youth from differing geographic, educational, and socioeconomic backgrounds. The knowledge, attitudes, and behavioral patterns of bidi smokers also must be assessed to understand this phenomenon and to curtail use. Research should assess the psychosocial and contextual factors affecting bidi use, the influence of peer pressure, how bidis are smoked (as an initiation to smoking or following cigarette smoking), and whether bidis are smoked instead of cigarettes or to mask the use of other substances.

Adolescents in this study reported their preference for the taste of bidis over cigarettes and their belief that bidis are less expensive, easier to buy, and safer than cigarettes. The findings on prevalence, knowledge, and attitudes, especially if they are replicated in other communities, may demonstrate the need for actions to curtail youth access to bidis similar to measures for limiting access to cigarettes and smokeless tobacco. Adolescents should be alerted to the high toxicity of bidis to dispel the notion that bidis are safer to smoke than cigarettes. Additional research is needed to assess other factors affecting the use of novel tobacco products such as bidis, including how restrictions on access and advertising are being enforced, how pricing affects use of these products, the application of federal and state excise taxes, and appropriate labeling of these products with the Surgeon General’s health warnings regarding tobacco use.

REFERENCES
10 available

*When presented separately, numbers for other racial/ethnic groups were too small for meaningful analysis.

High Prevalence of Chlamydial and Gonococcal Infection in Women Entering Jails and Juvenile Detention Centers—Chicago, Birmingham, and San Francisco, 1998

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THE PREVALENCE OF SEXUALLY TRANSMITTED DISEASES (STDs) is high among women entering corrections facilities.1 Screening for STDs in these facilities, however, is difficult because of the large number of persons admitted each day and the frequent shortage of medical staff and examination space.1 New, sensitive urine tests for gonorrhea and chlamydia have made screening practical outside of medical settings. To assess the feasibility of screening women in corrections facilities for chlamydial and gonococcal infection using urine tests and to determine the prevalences* of these infections, the Chicago Department of Public Health and the University of Alabama at Birmingham (UAB) began testing women and adolescent females entering the Cook County Jail and the Cook County Juvenile Temporary Detention Center in Chicago and the Jefferson County Jail and the Jefferson County Youth Detention Center in Birmingham, respectively, in 1998. The San Francisco Department of Public Health has been testing women at the San Francisco County jails for chlamydial and gonococcal infections using urine tests since 1996 and adolescent females at the San Francisco Youth Guidance Center since 1997. This report summarizes the findings for testing incarcerated women in 1998 in the three cities; preliminary results indicate that, in these facilities, testing for chlamydial and gonococcal infections is feasible and that a high percentage of women test positive for these infections.

In Chicago and Birmingham, STD screening was offered as a component of a research study, and written informed consent was obtained from all participants. Age groups eligible for testing varied by facility (all ages at the Jefferson County Jail, aged 18-30 years at the Cook County Jail, and aged ≥12 years at the juvenile facilities). Urine was tested for chlamydia and gonococcal DNA using the ligase chain reaction (LCR) assay at the Illinois Department of Public Health and UAB laboratories. In San Francisco, STD screening was offered routinely to women aged 18-29 years entering the adult facility and all adolescent females at the youth facility, and LCR testing was performed at the San Francisco Department of Public Health Laboratory. In the three cities, women with positive tests were treated by the facility’s medical staff if they were still incarcerated when results became available; local health department staff attempted to locate infected women who were released untreated.

During July-December 1998 at the Cook County Jail, 845 (98%) of 862 women agreed to participate; of these, 772 (91%) provided a specimen. Of 772
specimens, 103 (13%) were positive for chlamydial infection, and 66 (9%) were positive for gonococcal infection, including seven (1%) that were positive for both. During August-December 1998, of 310 women asked to participate at the Jefferson County Jail, 308 (99%) consented. Of the 308 women, 34 (11%) were positive for chlamydial infection and 25 (8%) for gonococcal infection, including five (2%) positive for both. Of 124 women aged 18-29 years, 21 (17%) were positive for chlamydial infection and eight (6%) positive for gonococcal infection. During January-December 1998 at the San Francisco County Jail, 113 (10%) of 1149 women tested for chlamydial infection were positive, and 55 (5%) of 1142 women tested for gonococcal infection were positive, including 10 (1%) positive for both. Prevalence of chlamydial infection was higher among women aged 18-19 years and aged 20-24 years than among women aged ≥25 years at all three county jails.

At each juvenile facility, overall positivity for both chlamydial and gonococcal infection in 1998 was higher than at the adult facility in the same city. In Chicago during April-December, 27% of adolescent females were positive for chlamydial infection, and 11% were positive for gonococcal infection. In Birmingham during March-December, 22% and 17% were positive for chlamydial and gonococcal infections, respectively, and in San Francisco during January-December, 16% and 6% were positive, respectively.

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CDC Editorial Note: Genital chlamydial and gonococcal infections can lead to pelvic inflammatory disease, ectopic pregnancy, infertility, or chronic pelvic pain in women. These infections are associated with increased risk for human immunodeficiency virus infection. Screening and treating women for chlamydia and gonorrhea may prevent some of these complications. Treating infected women in jail also may prevent transmission to the community because approximately half of arrestees are released within 48 hours of incarceration. The findings in this report indicate that a high percentage of women entering corrections facilities test positive for chlamydial and gonococcal infections. Although the prevalence of chlamydial and gonococcal infection is high among incarcerated women, most corrections facilities do not routinely screen for these infections but test only those who have symptoms or who request testing. Most women with gonorrhea or chlamydia, however, are asymptomatic. At city and county jails surveyed during 1997 that tested arrestees because of symptoms or by request, <5% of women were tested for chlamydia and gonorrhea.

The cost of testing for chlamydia and gonorrhea remains a barrier to routine screening. If resources are scarce, corrections facilities may choose to screen only persons at highest risk. The data described in this report and in previously published reports indicate that the prevalence of chlamydia and gonorrhea is higher among adolescent females entering juvenile facilities than among women entering adult facilities. In the three county jails described in this report, the prevalence of chlamydial infection was higher among women aged ≤24 years than among women aged ≥25 years. In addition, women aged ≤24 years may be at higher risk than older women for complications from chlamydial and gonococcal infections.

The findings in this report are subject to at least two limitations. First, the findings are from corrections facilities in three cities, and the prevalence of STDs varies across facilities and may be substantially different in other U.S. cities. Second, although the nucleic acid amplification tests used at all of these facilities have greater sensitivity than previous testing methods, they are imperfect.

Each city and county in the United States should assess the feasibility of screening persons entering corrections facilities for STDs and compare the yield of screening this population with other screening activities. Local STD control programs and corrections officials should collaborate to assess the contribution of STD screening in corrections facilities toward identifying and treating infections that would not be detected otherwise and, if appropriate, implement screening to interrupt transmission of gonorrhea and chlamydia in communities.

REFERENCES

1. Puisis M, Levine WC, Mertz KJ. Overview of sexually transmitted diseases. In: Puisis M, ed. Clinical practice in correctional medicine. St. Louis: Mosby, 1998:127-33.
2. Stamm WE. Chlamydia trachomatis infections of the adult. In: Holmes KK, Sparling PF, Mardh PA, et al, eds. Sexually transmitted diseases. 3rd ed. New York: New York: McGraw-Hill, 1999.
3. Hook EW, Handsfield HH. Gonococcal infections in the adult. In: Holmes KK, Sparling PF, Mardh PA, et al, eds. Sexually transmitted diseases. 3rd ed. New York, New York: McGraw-Hill, 1999.
4. Fleming DT, Wasserheit JN. From epidemiological synergy to public health policy and practice: the contribution of other sexually transmitted diseases to sexual transmission of HIV infection. Sex Transm Infect 1999;75:3-17.
5. Royce RA, Sina A, Cates W, Cohen MS. Sexual transmission of HIV. N Engl J Med 1997;336:1072-8.
6. Scholes D, Stergachis A, Heidrich FE, Andriola H, Holmes KK, Stamm WE. Prevention of pelvic inflammatory disease by screening for cervical chlamydial infection. N Engl J Med 1996;334:1362-6.
7. CDC. Assessment of sexually transmitted diseases services in city and county jails—United States, 1997. MMWR 1998;47:429-31.
8. Division of Sexually Transmitted Diseases Prevention. Sexually transmitted disease surveillance, 1997. Atlanta, Georgia: US Department of Health and Human Services, CDC, National Center for HIV, STD, and TB Prevention, September 1998.
9. Westrom L, Svensson L, Wolner-Hansen P, Mardh PA. Chlamydial and gonococcal infections in a defined population of women. Scand J Infect Dis 1982;32(suppl):157-62.
10. Black CM. Current methods of laboratory diagnosis of Chlamydia trachomatis infections. Clin Microbiol Rev 1997;10:160-84.

*In this report, the terms “prevalence” and “positivity” are used interchangeably although some women may be tested more than once; because of the short length of the study period, the difference between positivity and true prevalence is small.