Features of Sexually Transmitted Disease Services Important to African American Adolescents

Margo A. Lane, MD;Jacque McCright, BA; Karen Garrett, BA; Susan G. Millstein, PhD; Gail Bolan, MD; Jonathan M. Ellen, MD

Objective: To determine the relative importance of various features of health clinics when African American adolescents consider seeking care for sexually transmitted diseases (STDs).

Design: Confidential interviewer-administered telephone survey.


Participants: Random sample of African American adolescents aged 12 to 17 years; 302 (76.6%) of 394 identified eligible adolescents participated.

Main Outcome Measures: Items and scales measuring adolescents’ sense of the importance of the attributes of the provider (α = .58), availability of services (α = .61), and perceived confidentiality of health services from family (α = .72) when deciding where to seek care for possible STDs.

Results: More than 90% (90.4%) of subjects rated items relating to provider attributes as being highly important when they consider where they would seek care for an STD; between 62.5% and 82.7% rated availability items as being highly important; and between 38.6% and 60.8% rated items pertaining to confidentiality as being highly important. Greater importance was placed on provider attributes and confidentiality by female than male adolescents. The importance placed on provider attributes and confidentiality increased as adolescents aged.

Conclusions: Low-income, African American adolescents place great importance on provider attributes, less importance on availability, and even less importance on confidentiality when deciding where to seek health care for a possible STD. Health care providers and organizations need to be aware of these adolescent preferences to better promote screening and treatment of STDs in this population.


SEXUALLY transmitted diseases (STDs) are a common problem in adolescents, particularly African American adolescents. For example, the 1997 reported rate of Chlamydia trachomatis infection in adolescents aged 15 to 19 years was 1126 per 100,000. The reported rate in African American males was more than 12 times, and in African American females, more than 6 times, the corresponding rates in age-matched white adolescents.4 A recent Institute of Medicine report recommends that a national system be developed to prevent STDs and that this system be targeted, in part, at adolescents.5 To encourage adolescents to use STD health services, it is vital that these services be tailored to the special needs of youth. The Society for Adolescent Medicine has identified key features of adolescent-specific health services.6 According to the society, these features include high-quality, readily available care that protects the adolescent’s confidentiality. Studies have linked some of these features with adolescents’ satisfaction with general health care and intention to seek future health care.4,8 To date, few such studies have focused specifically on STD-related health services.9,10

In this study, we conducted a telephone survey of a community-based sample of African American adolescents to determine the relative importance of certain features of care when these adolescents consider seeking health care for STDs. We addressed the perceived importance of the provider attributes, availability of health

From the Division of Adolescent Medicine, Department of Pediatrics, University of California, San Francisco (Drs Lane, Millstein, and Ellen); Department of Public Health, City and County of San Francisco (Ms McCright); Survey Research Center, University of California, Berkeley (Ms Garrett); STD Control Branch, California Department of Health Services, Berkeley (Dr Bolan). Dr Ellen is now with the Division of General Pediatrics and Adolescent Medicine, Johns Hopkins University School of Medicine, Baltimore, Md.

Editor’s Note: I doubt that the subjects of this study are much different from any other patients. It’s the “provider” (aka, clinician), Mr or Ms Bureaucrat!

Catherine D. DeAngelis, MD
SUBJECTS AND METHODS

SUBJECTS

Eligible subjects were African American adolescents between 12 and 17 years of age who lived in a San Francisco, Calif, neighborhood where approximately 65% of the residents are African American. The 1990 median income for this neighborhood was $8000 below that of the city as a whole. The prevalence of reportable STDs in the neighborhood is known to be high. For example, the 1997 rate for C trachomatis in adolescents in this district was 4302 per 100,000. This is 3.5 times the rate for adolescents in the city as a whole (San Francisco Department of Public Health, unpublished data, 1997).

Between December 1, 1996, and April 29, 1997, we contacted by telephone a list-assisted random-digit sample of households. It is estimated that more than 98% of households in the neighborhood have telephone service and 70% of these households are served by the 3 telephone exchanges we used. Subjects were recruited in the evenings and on weekends. If more than 1 adolescent lived in a household, each was identified as eligible to participate. If an identified adolescent was not at home at the time the interviewer placed the initial telephone call, the interviewer returned the telephone call at an arranged time. Verbal informed consent was obtained from both the parent and the adolescent. After the 30-minute telephone interview, each adolescent was mailed a $10 check. Experienced telephone interviewers conducted the survey. Six interviewers were white, 3 were African American, and 1 was Hispanic; all were female. The study was conducted with institutional review board approval.

In all, we contacted 285 households in which 394 eligible adolescents lived. Consent was declined by 13.7% of parents or guardians. A further 9.6% of adolescents either declined consent or were unavailable for interview. Data on the reason for refusal were not collected. There was no difference in age or sex of participants and nonparticipants. The final sample consisted of 302 subjects from 224 households and represented 76.6% of the eligible subjects.

MEASURES

Basic demographic information was collected from each adolescent. Data on health insurance status was collected from the parent or guardian. Adolescents were then asked to suppose that they were concerned they might have an STD and were asked a series of questions with forced-choice response options. These questions asked whether the adolescent would rather go to (1) a clinic in his or her own neighborhood vs one in a different neighborhood, (2) a clinic with only adult staff vs a clinic that had both adult and teenaged staff, and (3) a clinic at his or her school vs a clinic outside of school. Adolescents were also asked to estimate how many clinics keep teenagers' business private from their family and friends (most, some, a few, or none). Near the end of the interview, adolescents were asked whether they had ever had sexual intercourse or had sought STD care. These questions were worded such that adolescents could respond with yes or no to maintain the confidentiality of their responses from household members.

We expected survey items measuring the constructs of availability and provider attributes to form scales. To verify this expectation, confirmatory factor analysis was performed on each set of items. The 4 items measuring availability all loaded on 1 factor, while the 4 items measuring provider attributes all loaded on a separate factor.

Responses to items were combined to form scale scores. Standardized Cronbach α values were .61 for the availability scale and .58 for the provider attributes scale. These Cronbach α values reflect low to moderate reliability for the scales.

Since we had no prior knowledge that the items intended to measure the construct “confidentiality” would load on a single factor, we performed exploratory factor analysis on those 8 items and retained items that loaded greater than 0.30 on an unrotated factor solution. The standardized Cronbach α value for the 4 retained items was .72. Of note, the item “How important would it be for clinic staff to keep a teenager's business private from his or her parents and family?” loaded on this factor, whereas the item “How important would it be for clinic staff to keep a teenager's business private from the other people he or she knows?” did not load on the factor. This suggests that this scale is really a measure of confidentiality from parents and family rather than a more global confidentiality scale.

STATISTICAL ANALYSIS

Statistical analysis was performed with SPSS for Windows Release 7.5 (SPSS Inc, Chicago, Ill). The χ² statistic was used to examine for statistically significant differences in responses according to sex. Multiple linear regression was then performed to determine the independent effects of sex, age, and history of sexual experience on each of the scale scores. Unweighted data were used, since all telephone numbers from the 3 exchanges were sampled.

To account for the fact that some of the subjects lived in the same household, and therefore responses could not be considered entirely independent, we analyzed the data in 2 ways. In the first analysis we used the data for all 302 subjects. In the second analysis we used the data from the 166 households where only 1 adolescent had participated, plus the data from 1 subject randomly selected from each of the 58 households where more than 1 adolescent had participated (n = 224). For both analyses, the significance of the findings was the same for all relationships except 2. We therefore report herein the results from the entire sample and draw the reader’s attention to differences between samples where we found them.
services, and confidentiality from family members on this decision. We also asked adolescents to tell us at which clinic setting they would prefer to seek STD care and how much they trust health clinics to maintain their confidentiality. We specifically targeted African American adolescents because of the increased rates of STDs in this group.

## RESULTS

The 302 subjects ranged in age from 12 to 17 years; the mean age was 14.7 years (SD, 1.7 years). About half of the subjects (55.0%) were female. Most of the subjects (79.5%) were currently living with 1 or both parents, 98.0% were enrolled in school, and the mothers of 91.9% of the subjects had completed high school. Almost all of the subjects (94.3%) had either state-funded or private health insurance. One hundred eighteen subjects (39.1%) were female. Most of the subjects (55.0%) were female. The subjects (94.3%) had completed high school. Almost all of the subjects (91.9%) were currently living with 1 or both parents, 98.0% were enrolled in school, and the mothers of 91.9% of the subjects had completed high school.

The 302 subjects ranged in age from 12 to 17 years; the mean age was 14.7 years (SD, 1.7 years). About half of the subjects (55.0%) were female. Most of the subjects (79.5%) were currently living with 1 or both parents, 98.0% were enrolled in school, and the mothers of 91.9% of the subjects had completed high school. Almost all of the subjects (94.3%) had either state-funded or private health insurance. One hundred eighteen subjects (39.1%) were female. Most of the subjects (55.0%) were female. The subjects (94.3%) had completed high school. Almost all of the subjects (91.9%) were currently living with 1 or both parents, 98.0% were enrolled in school, and the mothers of 91.9% of the subjects had completed high school.

The 302 subjects ranged in age from 12 to 17 years; the mean age was 14.7 years (SD, 1.7 years). About half of the subjects (55.0%) were female. Most of the subjects (79.5%) were currently living with 1 or both parents, 98.0% were enrolled in school, and the mothers of 91.9% of the subjects had completed high school. Almost all of the subjects (94.3%) had either state-funded or private health insurance. One hundred eighteen subjects (39.1%) were female. Most of the subjects (55.0%) were female. The subjects (94.3%) had completed high school. Almost all of the subjects (91.9%) were currently living with 1 or both parents, 98.0% were enrolled in school, and the mothers of 91.9% of the subjects had completed high school.

Only 60.1% of subjects thought it was extremely or very important that clinic staff keep a teenager’s business private from his or her parents and family, whereas 87.7% thought it was extremely or very important that the clinic staff keep their business private from the teenager’s acquaintances. Slightly more than half of subjects preferred to go outside of their neighborhood to seek STD care (56.6%) and preferred to attend a clinic with only adult staff (54.7%). Only 21.6% stated that they would seek STD care at a school-based clinic if they could. Few adolescents (24.4%) trusted most clinics to keep teenagers’ business private from their family or friends.

We then explored the relationship between 6 independent variables—sex, age, sexual experience, type of health insurance, living with 1 or both parents, and history of seeking STD care—and each of the scales. There was no correlation between any 2 of the independent variables greater than 0.50. Therefore, we were not concerned about an effect of multicollinearity on the results. We found no differences in the perceived importance of availability according to any of the independent variables. However, the perceived importance of both provider attributes and confidentiality was related to some of the independent variables tested.

When we focused on the importance of provider attributes, we found that this was more important to female adolescents than to male adolescents (β = .17, P = .003) and to older adolescents than to younger adolescents (β = .13, P = .02). A history of sexual experience did not alter the importance placed on provider attributes. However, there was a trend toward adolescents who had sought STD care in the past year to place more importance on provider attributes than adolescents who had not sought care (β = .16, P = .08). The type of health insurance and living in a single-parent household did not alter the importance placed on provider attributes. When

---

**Table**

<table>
<thead>
<tr>
<th>Item</th>
<th>Extremely/Very</th>
<th>Somewhat</th>
<th>Not Too/Not at All</th>
<th>Extremely/Very</th>
<th>Somewhat</th>
<th>Not Too/Not at All</th>
<th>P‡</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Provider Attribute Items</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MDs and RNs tell exactly what is wrong</td>
<td>128 (94.1)</td>
<td>6 (4.4)</td>
<td>2 (1.4)</td>
<td>162 (97.6)</td>
<td>3 (1.8)</td>
<td>1 (0.6)</td>
<td>.32</td>
</tr>
<tr>
<td>MDs and RNs answer questions about STDs</td>
<td>129 (94.9)</td>
<td>5 (3.7)</td>
<td>2 (1.4)</td>
<td>151 (91.0)</td>
<td>14 (8.4)</td>
<td>1 (0.6)</td>
<td>.30</td>
</tr>
<tr>
<td>MDs and RNs know a lot about teens’ medical problems</td>
<td>118 (87.4)</td>
<td>14 (10.4)</td>
<td>3 (2.2)</td>
<td>157 (94.6)</td>
<td>8 (4.8)</td>
<td>1 (0.6)</td>
<td>&lt;.03</td>
</tr>
<tr>
<td>MDs and RNs explain everything they do during examination</td>
<td>115 (84.6)</td>
<td>17 (12.5)</td>
<td>4 (2.9)</td>
<td>158 (95.2)</td>
<td>7 (4.2)</td>
<td>1 (0.6)</td>
<td>&lt;.03</td>
</tr>
<tr>
<td><strong>Availability Items</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinic open when teens can get there</td>
<td>112 (82.4)</td>
<td>14 (10.3)</td>
<td>10 (7.4)</td>
<td>134 (81.2)</td>
<td>23 (13.9)</td>
<td>8 (4.8)</td>
<td>.42</td>
</tr>
<tr>
<td>Appointments available as soon as teen wants</td>
<td>101 (74.3)</td>
<td>25 (18.4)</td>
<td>10 (7.4)</td>
<td>140 (84.4)</td>
<td>23 (13.9)</td>
<td>3 (1.8)</td>
<td>.07</td>
</tr>
<tr>
<td>Staff spends as much time as needed with teen</td>
<td>111 (82.2)</td>
<td>20 (14.8)</td>
<td>4 (3.0)</td>
<td>124 (75.2)</td>
<td>33 (20.0)</td>
<td>8 (4.8)</td>
<td>.32</td>
</tr>
<tr>
<td>Short waiting room time</td>
<td>95 (69.9)</td>
<td>27 (20.0)</td>
<td>14 (10.3)</td>
<td>93 (56.4)</td>
<td>43 (26.1)</td>
<td>29 (17.6)</td>
<td>.11</td>
</tr>
<tr>
<td><strong>Confidentiality Items</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinic keeps visit confidential from family</td>
<td>72 (53.3)</td>
<td>36 (26.7)</td>
<td>27 (20.0)</td>
<td>109 (65.7)</td>
<td>33 (19.9)</td>
<td>24 (14.5)</td>
<td>.24</td>
</tr>
<tr>
<td>Clinic promises no one will find out about visit</td>
<td>63 (46.7)</td>
<td>33 (24.4)</td>
<td>39 (28.9)</td>
<td>120 (72.3)</td>
<td>22 (13.3)</td>
<td>24 (14.5)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Clinic will not make teen tell parents</td>
<td>49 (36.0)</td>
<td>32 (23.5)</td>
<td>55 (40.4)</td>
<td>88 (53.0)</td>
<td>33 (19.9)</td>
<td>45 (27.1)</td>
<td>.01</td>
</tr>
<tr>
<td>Clinic located where no one can see you go in</td>
<td>37 (27.4)</td>
<td>27 (20.0)</td>
<td>71 (52.6)</td>
<td>64 (38.6)</td>
<td>44 (26.5)</td>
<td>58 (34.9)</td>
<td>.02</td>
</tr>
</tbody>
</table>

*MD indicates physician; RN, nurse; and STD, sexually transmitted disease. Because of rounding, percentages may not all total 100.
†Some subjects did not answer all questions. Maximum missing data on any item was 2 responses.
‡Statistical significance examined by χ² statistic for overall differences.
we used multiple regression to assess the independent effects of sex and age on the importance of provider attributes, both sex ($\beta = .17, P = .003$) and age ($\beta = .13, P = .03$) remained significant. For the subset of sexually experienced adolescents, we assessed the independent effects of sex, age, and history of seeking STD care on perceived importance of provider attributes. Only sex remained significant ($\beta = .24, P = .01$).

When we focused on the importance of confidentiality from family, we again found that this was more important to female adolescents than to male adolescents ($\beta = .24, P < .001$) and to older adolescents than to younger adolescents ($\beta = .19, P = .001$). The slightly higher importance placed on confidentiality by sexually experienced adolescents than by those who were not sexually experienced was of borderline statistical significance in this analysis ($\beta = .10, P = .09$). There was no difference in the perceived importance of confidentiality according to whether adolescents had sought STD care in the previous year, the type of health insurance they carried, or whether they lived in a single-parent household. Using multiple regression, we assessed the independent effects of sex, age, and sexual experience on the perceived importance of confidentiality. Sex ($\beta = .25, P < .001$) and age ($\beta = .15, P = .02$) remained significant.

When we analyzed the data subset including only subjects from independent households (n = 224), we found 2 differences from the results reported above. In this subset, sexually experienced adolescents who had sought STD care in the previous year assigned greater importance to provider attributes than did adolescents who had not sought care ($\beta = .26, P = .02$). Sexually experienced adolescents also assigned greater importance to confidentiality than did sexually inexperienced adolescents ($\beta = .15, P = .02$).

**COMMENT**

This study surveyed a community-based sample of African American adolescents to determine the relative importance they assign to various factors when choosing where to seek STD-related health care. All questions were based on a hypothetical situation. We found the dominant factor overall to be provider attributes, with more than 90% of subjects placing high importance on items about providers giving clear explanations, answering adolescents’ questions, and having good medical knowledge. The availability of health services, characterized in terms of convenient clinic hours and timing of appointments, was next in importance. Least importance was placed on items pertaining to confidentiality of the health visit from family. Despite being ranked as least important overall, confidentiality remained very important to many of these adolescents. Independent of sexual experience, female and older African American adolescents were more concerned than their counterparts about issues relating to provider attributes and confidentiality. These adolescents were about evenly divided over whether they preferred to attend clinics staffed by adults and other adolescents, or staffed only by adults. They do not favor school-based health centers for their STD care. Rather, many prefer to travel to a health center outside their neighborhood to get checked for an STD.

Our finding that African American adolescents rate provider attributes as a highly important feature of STD care is consistent with results from studies examining adolescents’ opinions about the important features of health care in general. Previous quantitative studies have shown that adolescents place importance on provider characteristics and that adolescents who are satisfied with the interaction style of the providers they see are more likely to plan to return for a follow-up appointment. Previous qualitative studies have drawn for us a clearer picture of the characteristics adolescents look for in a health provider. They prefer clinicians whom they perceive as being not only medically competent but honest, respectful, straightforward, and caring. Our findings suggest that these characteristics are not only important for general health care but are also of paramount importance when adolescents decide where to seek care for STDs.

Other studies have explored the importance of adolescents’ general health visits being kept confidential. A survey of Massachusetts high school students found that 69% of adolescents had health concerns that they would want to keep private from their friends, 58% had health concerns that they would want to keep private from their parents, and 25% were willing to forgo a health care visit so that their parents would not find out. Another study found that assurances of confidentiality to adolescents increased their willingness to disclose sensitive information and to seek future health care.

As in the present study, the Massachusetts study found that female adolescents have greater concerns about confidentiality than do male adolescents. Although the reasons for this sex difference were not explicitly explored in either study, we infer that greater social stigma against adolescent females being sexually active or acquiring an STD explains at least part of this difference. The finding that older adolescents have greater concern than younger adolescents about confidentiality, even after controlling for sexual experience, is interesting. This may, in part, result from a larger number of older adolescents engaging in other behaviors that they want kept confidential. As a group, they may also have more experience with health providers breaching confidentiality regarding other health concerns. Alternatively, it may result from the advanced cognitive ability of older adolescents such that they are better able to imagine the potential negative consequences of having their right to confidentiality violated.

Our finding that the majority of adolescents do not trust most clinics to keep a teenager’s visit confidential is disturbing but consistent with another study of California adolescents. That study reported that, whereas 65% of the high school students they surveyed trusted a physician to keep a secret about the adolescent being sexually active, only 44% trusted the physician to keep a secret about an STD or pregnancy. Although an adolescent’s right to confidential health care for sexual concerns is protected by law in both California and Massachusetts, fewer than half of the adolescents surveyed by researchers in these states were aware of this fact. Thus, at least
in these 2 states, adolescents are poorly informed of their rights to confidential health care.

One model of health service for adolescents that is favored by the authors of the Institute of Medicine's report and by many adolescent health care providers is the school-based health center. However, only 22% of the subjects in our sample and 12% of the students in the Massachusetts study expressed a preference for seeking STD care at such a site. The low acceptance rate of school-based health centers in these 2 studies suggests that these centers are not a panacea to the problem of adolescents having inadequate access to STD care. Rather, these centers may play a meaningful role in a multifaceted system of health care provision. However, for school-based health centers to attract adolescents to seek STD care, it seems that staff must be especially conscious of not only maintaining student confidentiality, but also being perceived as maintaining confidentiality.

This study has limitations that need to be considered. First, the sample was restricted to African American adolescents living in a low-income neighborhood in a large city. Given our sampling method, our subjects are likely to be representative of the adolescents in their neighborhood. However, the adolescents we surveyed reported somewhat lower rates of sexual experience than those reported in national data. This suggests that our results may not necessarily be generalized to African American adolescents living in other communities.

A second limitation is that our data are restricted to self-report data, for which there is always a risk of subjects not giving accurate responses. There are currently no data that compare adolescents' willingness to honestly disclose sensitive information in an interviewer-assisted telephone interview and other survey modalities, such as a written anonymous questionnaire. However, a written anonymous survey identified similar rates of sexual activity and other risk behaviors in San Francisco adolescents as those disclosed by the adolescents we surveyed. This reassures us of the validity of our data.

A final limitation relates to the problem of drawing a clear link between what people think they might do and what they actually do. Our study examined the importance African American adolescents assign to various factors in the hypothetical situation of seeking STD care. Unfortunately, we do not know whether the features of STD services that adolescents identify as important in a hypothetical situation carry the same importance when they are actually deciding where to seek STD care. However, we think it remains useful to understand and address the issues that adolescents identify as important in their health care. If we do this, it is likely to increase how satisfied adolescents are with the health care system and the care they receive. This, in turn, may impact their willingness to seek care and to return for follow-up.

In summary, our data indicate that concerned providers, easily accessible visits, and confidential care are attractive features to most African American adolescents. Beyond these core features, different adolescents seek different features in a clinic offering STD care. Even within the racially and economically homogeneous sample we studied, adolescents differed in their preferences regarding STD services. This leads us to expect even greater differences in preferences within the larger adolescent population and to believe that no single health clinic model will properly serve the STD health care needs of all adolescents. Therefore, to be effective, any system of health care services aimed at reducing STDs in this age group will need to offer adolescents a variety of types of clinics from which to choose. Finally, no system will work unless adolescents are made aware of their right to seek confidential health care for STDs.

Accepted for publication January 12, 1999.

This research was supported in part by grant H25/CCH904371 from the Centers for Disease Control and Prevention, Atlanta, Ga; grant AI36986 from the National Institute of Allergy and Infectious Disease, Bethesda, Md; and grant MCJ000978A from the Maternal and Child Health Bureau, Washington, DC.

Presented in part at the Society for Pediatric Research meeting, New Orleans, La, May 4, 1998.

Reprints: Jonathan M. Ellen, MD, Johns Hopkins School of Medicine, Division of General Pediatrics and Adolescent Medicine, 600 N Wolf St, Park 307, Baltimore, MD 21287-2530 (e-mail: jellen@jhmi.edu).

REFERENCES


