Not All Washington-Area Primary Care Practices Offer All Needed Adolescent Reproductive Health Services

Adolescent sexual and reproductive health services—especially confidential services—are not universally available from primary care practices in the Washington, DC, area, according to a 1998–1999 survey of physicians and office staff.[1] Pediatric and family medicine practices are significantly more likely than internal medicine practices to see adolescent patients. However, family medicine practices are significantly more likely than pediatric practices to offer pelvic examinations, contraceptive services and sexually transmitted disease (STD) testing, and to do so without notifying adolescents' parents; internal medicine practices are more likely than pediatric practices to provide pelvic examinations, STD testing and confidential STD testing. Adolescents may be misinformed about confidential services, as office staff are often not aware of physician confidentiality policies.

To assess the availability and confidentiality of adolescent health services, researchers surveyed physicians and office staff of private primary care practices in the Washington, DC, metropolitan area. Using a local directory of physicians, the researchers selected all medical practices specializing in one of three primary care areas: pediatric and adolescent medicine, family medicine and internal medicine. Between February and July 1998, interviewers called 481 practices, and conducted telephone surveys with the office staff who answered. Between November 1998 and February 1999, the researchers conducted a mail survey of all physicians from practices whose office staff completed the telephone survey. In all, 170 practices were represented in both surveys.

The mail and telephone surveys asked about services offered (pelvic examinations, contraceptive services, STD testing), whether the practice saw adolescent (18-year-old or younger) patients and how many it saw per week, and whether confidential services were available for adolescents. Characteristics of the physicians were determined from survey questions and information from the local directory. The researchers matched the data from the practices that completed both surveys, and measured the agreement between office staff and physicians. To measure the association between practice characteristics and the availability of services or agreement between office staff and physicians, the researchers used logistic regression analysis, controlling for variables found to be significant in previous research.

According to the telephone interviews, significantly higher proportions of pediatric (100%) and family medicine (93%) practices than of internal medicine practices (57%) saw adolescent patients. At almost all pediatric and internal medicine practices (93–96%), a receptionist, office manager or registered nurse answered the phone; in contrast, 25% of family medicine practices had medical assistants or doctors answering the phone. Fifty-two percent of internal medicine practices had physicians who, on average, had graduated from medical school within the past 20 years, compared with 38% of pediatric and 28% of family medicine practices. According to the mail survey, a significantly higher proportion of pediatric and family medicine practices than of internal medicine practices saw adolescent patients (98–99% vs. 86%) and saw more than five adolescents per week (82–83% vs. 9%).

Among the 137 practices that had at least one physician who reported seeing adolescents and were not missing office staff or physician responses to service provision questions in either the mail or the telephone survey, significantly greater proportions of family medicine and internal medicine practices (71–97%) than of pediatric practices (43–80%) reported that pelvic examinations, contraceptive services and STD testing were available to adolescents. (Among pediatricians, the most common reasons for not offering pelvic examinations were lack of equipment and expertise, and the most common reasons for not offering contraceptive services were that they do not offer pelvic examinations and lack of expertise.) Physicians and office staff from the same practices gave discordant answers to 16–39% of the questions; the highest level of disagreement was between physicians and office staff of pediatric practices about whether they provided STD testing to adolescents.

Among the 92 practices that offered services for medically emancipated adolescents, 32–49% of the office staff and 63–91% of the physicians reported that contraceptive services and STD testing were available to adolescents without parental knowledge; there were no significant differences in these proportions by practice type. Physicians and office staff of all three types of practices gave discordant answers to 45–63% of questions; the highest level of disagreement was between physicians and office staff of internal medicine practices about whether contraceptive services were available without parental knowledge.

In logistic regression analysis, family medicine practices were significantly more likely than pediatric practices to offer pelvic examinations (odds ratio, 77.6), contraceptive services (42.1), STD testing (6.9) and confidential services (4.1–8.2); internal medicine practices were more likely than pediatric practices to provide pelvic examinations (13.6), STD testing (21.6) and confidential STD testing (6.9). Having more than 50% board-certified physicians in a practice was significantly associated with increased odds of offering confidential contraceptive services (3.2), whereas having a practice that sees more than five adolescents per week was associated with increased odds of offering STD testing and confidential STD testing (4.2–4.7). Furthermore, solo male practitioners, solo female practitioners and all-male group practices were significantly less likely than group practices with at least one female physician to offer confidential services (0.1–0.2). Solo female practitioners and all-male group practices had reduced odds of offering contraceptive services (0.1–0.2), and all-male group practices had reduced odds of offering pelvic examinations (0.1).

Finally, a greater proportion of office staff and physicians of pediatric practices (77% and 70%, respectively) than of internal medicine (42% and 12%) or family medicine practices (69% and 50%) reported having a specific of-

fice policy on adolescent confidentiality. The level of disagreement between physicians and office staff ranged from 38% to 50%. In regard to other "adolescent-friendly" policies, most practices (70–97%) reported offering same-day urgent appointments, whereas greater proportions of family medicine practices than of the other two types required less than a $50 up-front fee from patients without insurance (25–53% vs. 9–52%) or offered a sliding-scale fee based on ability to pay (50–61% vs. 27–50%).

The researchers acknowledge that "there may be large regional variation in availability of confidential services based on state law, the supply of primary care providers, availability of alternative sites for health care, and local attitudes toward providing confidential services to adolescents." Even so, they comment that their results "show that care for medically emancipated conditions for adolescents is not universally available in primary care practices," and that "confidential care is even less accessible to adolescents." These findings suggest that many teenagers may decide not to seek sexual and reproductive health services because such services are not offered by their regular doctors or because they are worried that their parents will find out.–*J. Rosenberg*

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Study Results Have Left Many Women Confused About Hormone Therapy

Two-thirds of U.S. women aged 40–79 have heard about research results suggesting that the risks of hormone therapy outweigh the benefits, and three-fourths are confused about whether to use it to alleviate symptoms of menopause and prevent diseases related to aging, according to findings from a national telephone survey.[1] While the majority of women in this age-group are interested in obtaining more information, only one-quarter of those who have heard about the research findings have taken any steps to do so. Women's age and socioeconomic status are key factors in how they have responded to reports about hormone therapy.

In early July 2002, investigators conducting a large clinical trial of a hormone therapy product containing estrogen and progestogen released a report documenting associations between use of the drug and increased risks of breast cancer, heart disease, stroke and venous thromboembolism; an observational study released a few days later implicated unopposed estrogen in the development of ovarian cancer. The telephone survey, which included 819 women in a sample of randomly selected households, was conducted shortly after the second study was publicized, to assess women's awareness of and reactions to these findings.

The data were weighted to reflect the national distribution of women between the ages of 40 and 79 by census region, age, race or ethnicity, and educational attainment. Respondents represented a broad range of income categories; more than half were employed, and four in five owned their home. Nearly three-quarters were postmenopausal or perimenopausal (67% and 10%, respectively), and one-third had had a hysterectomy. Twenty-five percent were using hormone therapy or had discontinued its use within the previous month, 12% had used it in the past and 63% had never used it.

In all, 64% of women had heard about the findings regarding the safety of hormone therapy, and 74% reported being confused about whether to use it. Only 24% of women who were aware of the findings had sought additional information about hormone therapy—primarily from health care professionals (48% of this group), but also from print media (33%), the Internet (29%), social networks (8%) and broadcast media (5%). Slightly more than half of respondents were worried about the effects of hormone therapy (57%) and felt uninformed about the study findings (56%); 79% thought it would be helpful to have additional information about the therapy.

The researchers conducted logistic regression analyses to assess predictors of responses to the news of the hormone study findings. These analyses showed that women with more than a high school education had elevated odds of being aware of the findings (odds ratios, 2.1 for those with some postsecondary education and 2.4 for college graduates), as did those who had ever used hormone therapy (3.1). Women who lived in rental housing were less likely to know about the study results than were homeowners (0.5).

Confusion about hormone therapy was less likely among respondents aged 65–79 than among 40–54-year-olds (0.4), and less likely among women with the highest level of education than among those who had gone no further than high school (0.7). Women who had ever used hormone therapy had half again never-users' odds of expressing confusion (1.5).

Among respondents who were aware of the study findings, the oldest women and those who did not own their homes had reduced odds of seeking additional information (0.4 and 0.5, respectively). Women with more than a high school education, those who were perimenopausal or postmenopausal, ever-users of hormone therapy and residents of the North Central region had significantly elevated odds of trying to learn more; odds ratios ranged from 1.9 to 2.6.

Few factors emerged as independent predictors of worry about the effects of hormone therapy: Women older than 54 had reduced odds of worrying (0.3–0.6), while respondents who lived in the Northeast and those who had ever used hormone therapy had elevated odds (1.8 and 1.9, respectively). Similarly, only two factors were associated with women's odds of thinking that it would be helpful to have more information about the therapy: being 55 or older (odds ratio, 0.5) and ever having used hormone therapy (1.6).

The likelihood that women felt uninformed about the study findings was elevated among nonwhite women and those who had had a hysterectomy (odds ratio, 1.6 in each case). It was reduced among respondents who had graduated from college, those who were postmenopausal and those who had ever used hormone therapy (0.5–0.6).

Given what is known about the effects of hormone therapy, the researchers remark, "an important next step will be to continue to convey accurate information to women, their health care providers, and the media." At the same time, "the biomedical community must help the public understand that clinical studies are long journeys, sometimes taking decades, and that advances [occur] in a series of small steps." Moreover, the researchers conclude, health messages must be tailored to individual women's needs and "made relevant to the subset of underrepresented women who do not have sufficient information to make informed decisions about their own health care."–*D. Hollander*

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Shortly After Early Abortion, Women Report Significant Improvements in Physical and Emotional Well-Being

Women undergoing early abortion may experience dramatic improvements in their quality of life soon after the procedure. In a prospective cohort study of 97 patients, all examined aspects of quality of life improved significantly within one month after abortion.[1] These quality-of-life changes—which included women's global health, emotional and cognitive functioning, and experiences of insomnia and appetite loss—occurred similarly in medical and surgical abortion patients.

The study was conducted in 2000 in an urban, private-practice setting in New York. Abortion-seeking women were given a choice of medical or surgical abortion after receiving information and counseling. Patients choosing surgery underwent manual vacuum aspiration with local anesthesia at their initial office visit. Those choosing medical abortion received 200 mg oral mifepristone at the office visit; 1–2 days later, they self-administered 800 mcg misoprostol vaginally at home. At the end of the first office visit, English-speaking women aged 18 years or older who had terminated a pregnancy of up to nine weeks' gestation were invited to enroll in the study.

The researchers orally administered a validated 30-item questionnaire that is widely used for quality-of-life assessment, predominantly in cancer trials, at three points in time—baseline (at the end of the first office visit), one week later (during a routine follow-up office visit) and one month after baseline (by telephone). At each assessment, patients reported on their quality of life during the previous seven days. The survey responses yielded scores for global health; cognitive, emotional, social, physical and work function; and several specific symptoms (appetite loss, fatigue, insomnia, nausea and vomiting, and pain). At baseline, in addition to recording responses to the survey items, the researchers obtained clinical, demographic and other information from the patients' medical records—including partner knowledge of the pregnancy, which the women had been asked about when they telephoned to schedule their initial office visit. The investigators performed analyses of variance to assess whether mean quality-of-life scores for the entire cohort had changed significantly across the three assessment points; they used chi-square tests and t-tests to compare the medical and surgical groups.

Of the 97 women enrolled in the study, 55 had chosen medical abortion and 42 had chosen surgical abortion. The medical patients had a lower level of education (40% were college graduates, compared with 67% of surgical patients), and a smaller proportion of women in this group had private insurance (55%, compared with 78%). Otherwise, the two groups had similar characteristics. On average, the women were aged 28–29 years; the mean gestational age was 49–50 days. At baseline, approximately eight in 10 women reported that their partner knew of the pregnancy. Eighty-seven percent of the enrolled women participated in both follow-up surveys.

At the baseline assessment, patients reported experiencing numerous functional impairments and symptoms. One month later, their scores for each type of function and symptom signaled significant improvements. For example, on a 0–12-point scale for emotional function (in which a low score is good), the mean score for the total sample decreased from 5.2 to 2.1. For loss of appetite, which was rated on a 0–3-point scale, the score decreased (denoting improvement) from 0.9 at initial measurement to 0.1 at the final survey. On a scale of 2–14 (in which a higher score indicates better quality of life), the mean score for global health increased from 8.8 to 12.0.

At the one-week assessment, most measures of quality of life already showed improvement; however, the medical patients reported a lower level of social function since baseline, and the medical and surgical groups each reported worsened physical function and pain.

The medical and surgical groups differed significantly on several measures at baseline, but on only one measure at the one-week assessment and on none at the one-month assessment. At baseline, surgical patients scored worse than medical patients on three function scales (cognitive, emotional and social) and two symptom scales (fatigue and insomnia). A possible explanation offered by the authors is that "women who had more symptoms or distress during the week before the appointment may have selected a surgical abortion in order to complete the process more quickly." At one week, the medical group had less improvement than the surgical group in nausea and vomiting.

In a secondary analysis, the researchers found only one characteristic at baseline—partner knowledge of the pregnancy—to be associated with quality-of-life scores. Women whose partners knew of the pregnancy reported a significantly lower level of functioning (on emotional, cognitive, social and work scales) and more symptoms (of fatigue, nausea and vomiting, appetite loss and insomnia) than participants whose partners were unaware of the pregnancy. However, by the one-month follow-up, participants whose partner knew of the pregnancy had significantly worse scores on only three measures—the cognitive, social and loss-of-appetite scales.

The authors note that their study is limited by its nonrandomized design. In addition, because the study was conducted in a private-office setting, they acknowledge that the results may not be generalizable to the majority of abortion seekers in the United States, who undergo the procedure in freestanding clinics. Nevertheless, because both the medical and the surgical patients experienced substantial improvements in their short-term quality of life following abortion, the authors argue that their findings "should support improved access to early medical and surgical abortion in physician offices and other settings."—*C. Coren*

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Acquiring a New Partner Is Linked to Increased HPV Risk Among Young Women

More than a third of sexually experienced young women who are not infected with human papillomavirus (HPV) become infected during a two-year period.[1] In a cohort study of female university students who initially did not have genital HPV infection, women who were sexually experienced (had had penetrative vaginal sex with a male partner) at the study's start and those who became sexually experienced during the study were similarly likely to become infected. The risk of genital HPV infection was elevated for women who smoked, used oral contraceptives or acquired a new male sex partner, especially one a woman had known for less than eight months before having sex with him or one who had had other partners. The risk was not reduced for women who reported always using con-

doms with new partners. Sexually inexperienced women seldom became infected, but their risk was elevated if they reported any type of nonpenetrative sexual contact.

Between 1990 and 1997, researchers mailed study invitations to a random sample of female university students aged 18–20 in Washington State. Participants made a clinic visit at enrollment and at four-month intervals thereafter. At each visit, nurse practitioners interviewed women to obtain sexual history and health information, and collected genital tract (cervical and vulvovaginal) specimens that were tested for HPV by polymerase chain reaction; a subsample of women provided oral specimens for HPV testing. Kaplan-Meier analysis was used to estimate cumulative probabilities of acquiring HPV infection. Risk factors for infection were assessed by Cox proportional hazards analysis.

Analyses were based on 444 women who had no detectable HPV in genital tract specimens at the time of enrollment. On average, the women were 19 years old when they entered the study and participated for 41 months. Two-thirds of the women were sexually experienced at the time of enrollment, and they had had an average of about two sex partners. Nearly two-thirds of the women who were sexually inexperienced at enrollment had first penetrative vaginal sex during the study.

In the two years after enrollment, the women overall had a cumulative probability of genital HPV infection of 32%. Women who were sexually experienced at the start of the study had the same probability of infection over the next two years that women who first engaged in penetrative sex during the study had over the two years following that experience (39%). In the two years after acquiring a new or first sex partner, the probability of infection did not differ by women's sexual experience at enrollment.

HPV-16, the type of the virus most closely associated with cervical cancer, occurred more frequently than three other high-risk types studied. The cumulative probability of HPV-16 infection in the first two years after study enrollment (for women who were already sexually experienced) or initiation of penetrative sex was 10%. (For the other high-risk types of the virus, probabilities were 1–5%.)

Of the new HPV infections, 54% were detected in the vulvovaginal region only, 10% were detected in the cervix only and 35% were detected in both regions. Detection of HPV was significantly more likely in the vulvovaginal region than in the cervix regardless of the interval since enrollment or since first sexual experience.

Women who reported acquiring a new partner during the last year were at higher risk for genital HPV infection than women who did not, and the risk was highest when the new partner had been acquired in the 5–8 months before a study visit (hazard ratio, 3.0). No significant increase in risk was seen among women who reported acquiring a new partner 13–16 months before a study visit. After acquisition of a new partner during a given interval and lifetime number of partners were taken into account, women who had penetrative sex during that interval did not have a significantly elevated risk of genital HPV infection.

Sixty percent of sexually active women who reported having vaginal sex since their last visit also reported having oral-penile contact. However, HPV was detected in only 0.2% of the oral specimens collected, and women reporting oral-penile contact in the past year were not at increased risk for oral HPV infection.

HPV was detected in only 2% of genital tract specimens from sexually inexperienced women. Overall, the cumulative probability of HPV infection during two years was 8% for women who were sexually inexperienced at study enrollment; the probability was 15% for women who subsequently had first penetrative sex and 2% for women who did not.

After vaginal sex and acquisition of a new partner were taken into account, sexually experienced women who reported finger-vulvar or penile-vulvar contact were not at increased risk for genital HPV infection. In contrast, sexually inexperienced women were more likely to acquire genital HPV infection if they reported having any type of nonpenetrative sexual contact (finger-vulvar, penile-vulvar or oral-penile) than if they did not (10% vs. 1%).

In a multivariate analysis, women who initially were or became sexually experienced had a moderate increase in the risk of genital HPV infection if, during the past year, they used oral contraceptives (hazard ratio, 1.4), smoked (1.5) or had known a new partner for less than eight months before having sex (1.8); their risk also rose moderately as their number of partners increased (1.1). They had a sharp increase in risk if they reported having a new partner who had had at least one previous partner (5.2) or who had had an unknown number of partners (8.0). Women who reported always using condoms with new partners did not have a significantly reduced risk of infection.

Young women who acquire a new sex partner are at high risk for genital HPV infection, regardless of their prior sexual experience, the investigators conclude. The findings "suggest that the better and longer a woman knows her partner before intercourse, the less her risk of becoming infected with HPV." When women acquire a new partner, the first year is likely to be the critical time for detecting HPV infection if it occurs, the investigators note. Furthermore, although sexually inexperienced women rarely acquire HPV infection, "nonpenetrative sexual contact is a plausible route of transmission" in these women.–*S. London*

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Odds of Ectopic Pregnancy Are Sharply Elevated Among Heavy Smokers

Heavy smoking and a history of sexually transmitted disease (STD) are the main factors of ectopic pregnancy, according to results of a population-based study conducted in central France.[1] Among women in one region, those who had smoked 20 or more cigarettes a day had four times the odds of having an ectopic pregnancy of those who had never smoked; those who had had an STD and confirmed pelvic inflammatory disease had more than three times the odds of those with no STD history. Each of these factors accounted for nearly one-third of ectopic pregnancies. Whereas previous research has yielded mixed results regarding the role of age as a risk factor, this study found an independent association between increasing age and an elevated risk of ectopic pregnancy.

An ectopic pregnancy register established in the Auvergne region in 1992 enabled researchers to gather information on all women aged 15–44 who had been treated for ectopic pregnancy at a maternity hospital or surgical unit between 1993 and 2000. For each woman, the investigators selected two controls from among those who had given birth at the same facility where the woman had been treated, at roughly the same time. They restricted their analyses to women who had not been using contraceptives. In all, 803 women with ectopic pregnancies and 1,683 controls were included in the analyses.

Using data from the register, the researchers conducted univariate analyses of the risk of ectopic pregnancy associated with women's background characteristics; surgical, gynecologic and obstetric history; STD risk factors and history; and contraceptive use and fertility-related characteristics. They performed logistic regression analyses to assess independent associations of factors with significant results at the univariate level.

The multivariate results showed a strong relationship between smoking and ectopic pregnancy risk: Compared with women who had never smoked, those who had smoked in the past had 50% higher odds of ectopic pregnancy (odds ratio, 1.5); the differential was larger for current smokers and climbed as the number of cigarettes smoked daily increased. The odds for women who smoked most heavily—20 or more cigarettes a day—were 3.9 times the odds of never-smokers.

STD history was another important factor in ectopic pregnancy risk. Women who had had an STD with a confirmed diagnosis of pelvic inflammatory disease had more than tripled odds of ectopic pregnancy (odds ratio, 3.4), compared with those who had never had an STD. Tubal surgery, which may occur because of STD-related infection, also was associated with substantially elevated odds of ectopic pregnancy (4.0).

As women's age increased, the risk of ectopic pregnancy grew. The sharpest rise occurred after age 40: Whereas women in their late 30s had 40% higher odds of ectopic pregnancy than those in their late 20s, women aged 40 or older had nearly three times the odds of those aged 25–29 (odds ratio, 2.9).

In some instances, previous pregnancy terminations were associated with increased odds of ectopic pregnancy. Women who had had one or two spontaneous abortions had no greater risk of ectopic pregnancy than those who had had none; the risk was elevated, however, for those who had had three or more (odds ratio, 3.0). And whereas women who had had only surgical abortions were at no greater risk than those who had never had an abortion, women who had had a medical abortion had elevated odds (2.8).

Previous IUD use was associated with a marginally significant 30% increase in the odds of ectopic pregnancy, and previous pill use with a 30% reduction in risk. Women who had experienced any period of infertility were at increased risk; odds ratios ranged from 2.1 for those who had been infertile for less than one year to 2.7 for those who had had this experience for more than two years. The researchers note that the relationship between infertility and ectopic pregnancy is particularly complex because each condition may be viewed as a consequence of the other, and they emphasize the importance of identifying common risk factors for the two.

Overall, the factors studied accounted for 76% of all ectopic pregnancies. Past or current smoking and STD history, taken together with a history of tubal surgery, contributed 35% and 33%, respectively. Each of the others factors contributed 18% or fewer. (Multiple factors may contribute to any occurrence of ectopic pregnancy, and individual proportions therefore add to more than the overall figure.)

"In terms of public health," the investigators comment, "increasing awareness of the role of smoking may be useful in the formulation of ectopic pregnancy prevention policies." They add that the effects of rising STD incidence should also be evaluated.–*D. Hollander*

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Three Differing Emergency Contraceptive Regimens Are Equally Effective

Three regimens of emergency contraception—a single 10 mg dose of mifepristone, a single 1.5 mg dose of levonorgestrel and two 0.75 mg doses of levonorgestrel taken 12 hours apart—appear to be equally effective. According to results of a randomized, double-blind trial among 4,071 women in 10 developed and developing countries who sought emergency contraception within five days of unprotected coitus,[1] there was no significant difference in pregnancy rates by emergency contraceptive method. Only 1.5–1.8% of the women became pregnant, and 77–82% of expected pregnancies were averted, with no significant difference by type of treatment. There was no significant difference by regimen in most side effects, except for the timing of expected menses after treatment; users of mifepristone experienced delays of at least seven days significantly more often than did users of levonogestrel.

The multicenter study was undertaken to compare the emergency contraceptive efficacy of levonorgestrel and mifepristone, and to determine the feasibility of a single dose of levonorgestrel. The study was conducted in 1998–2000 in 15 family planning clinics in 10 countries—China, Finland, Georgia, Hungary, India, Mongolia, Slovenia, Sweden, Switzerland and the United Kingdom. Women with regular menstrual cycles who presented at a clinic requesting emergency contraception within 120 hours of a single act of unprotected coitus were randomly assigned to one of the three regimens—one 10 mg dose of mifepristone, one 1.5 mg dose of levonorgestrel and two 0.75 doses of levonorgestrel taken 12 hours apart. They were asked to return for follow-up one week after the estimated onset of their next menstrual period; those who had not menstruated by that time or who had had an abnormal period were tested for pregnancy. The investigators assessed pregnancy rates, the proportion of expected pregnancies averted, participants' experience of side effects and delays in the return of menstruation.

A total of 4,071 women provided usable data for analysis, roughly one-third of whom were randomly assigned to each regimen. Fifty-four percent of participants were Chinese, 34% were white and 12% were of other races or ethnicities; their average age was 27 years. There were no significant differences between treatment groups in background characteristics. Overall, 60% of women had been pregnant and 48% had had an induced abortion, but these proportions varied widely by center. Fifty-two percent of women had asked for emergency contraception because they had not used any contraceptive method, 44% because a condom had failed, and 3–4% because another method had failed. Overall, 26% of participants had used emergency contraception before. Forty-four percent of the women presented for treatment within 24 hours of unprotected coitus, 72% did so within 48 hours, and 88% within 72 hours.

The three emergency contraceptive regimens had the same efficacy, even after the investigators controlled for treatment center and ethnicity. Overall, only 1.5–1.8% of women became pregnant. The regimens prevented 77–82% of pregnancies that would have been expected in the absence of emergency contraceptive use (a nonsignificant difference by treatment group). There were no significant differences in the risks of pregnancy between users of mifepristone and users of both levonorgestrel regimens combined, between users of mifepristone and users of single-dose levo-

norgestrel, and between users of one dose and users of two doses of levonorgestrel.

Among women in all treatment groups, there was no significant difference in pregnancy rates between those who took their pills within 72 hours of unprotected coitus and those who received treatment later. An increasing trend in pregnancy rates over the first five days after unprotected coitus was significant, but the sample sizes were too small to analyze this trend separately by treatment group. Among women who had unprotected intercourse after treatment but before expected menses, the rate of pregnancy was significantly higher among those who took mifepristone than among those who took levonorgestrel.

There were no differences by treatment group in the proportions of women reporting nausea, vomiting, diarrhea, fatigue, dizziness, headaches or breast tenderness. However, a significantly higher proportion of levonorgestrel users than of mifepristone users reported bleeding unrelated to menstruation in the first week after treatment (31% vs. 19%). Overall, women in the developed countries reported more side effects than those in the developing countries. In addition, the proportion of women whose first menses after treatment began more than seven days later than expected was significantly higher among mifepristone users than among levonorgestrel users (9% vs. 5% among nonpregnant women only).

The researchers affirm that there were no differences in efficacy among the three treatment groups; moreover, within the limits set by the study, the single dose of levonorgestrel was at least as effective as the split dose. According to the investigators, because the risk of pregnancy continues after treatment, if women have further acts of unprotected intercourse, that risk "should be highlighted, especially if mifepristone is used"; contraceptive use should be encouraged if abstinence is unfeasible. Levonorgestrel's advantage of being associated with early menses means that users of this method will menstruate sooner, and be relieved of pregnancy anxiety sooner, than users of mifepristone. The researchers conclude that all three regimens "prevent a high proportion of pregnancies, even up to [five] days after coitus."–*L. Remez*

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Neighborhood-Level Effects On Babies' Birth Weight Differ by Race in Chicago

Neighborhood-level factors appear to have independent effects on the birth weight of babies born to urban residents. According to a study based on individual- and neighborhood-level data from 343 Chicago neighborhoods,[1] for white mothers only, the more socially cohesive and supportive a woman's neighborhood, the heavier her baby was. For black mothers only, increasing levels of neighborhood economic disadvantage were associated with significant reductions in their babies' mean birth weight.

The data covering 343 Chicago neighborhoods came from three sources. The authors' household survey of 8,782 adults, conducted in 1995 as part of the Project on Human Development in Chicago Neighborhoods, yielded data on levels of perceived neighborhood support; these were based on responses to 10 items assessing social cohesion, trust and interaction (with higher scores indicating higher levels of neighborhood support). Birth certificates for 95,711 singleton infants born in 1994–1996 (to 65,923 blacks and 29,788 whites) provided information on birth weight and maternal risk factors. Finally, data from the 1990 census provided information on economic disadvantage (a composite index of the proportion in poverty, on public assistance and unemployed, with higher scores indicating greater disadvantage).

Five percent of babies born to white women had low birth weight (less than 2,500 g), compared with 13% of babies born to black women. Babies born to whites weighed 3,389 g at birth, on average, whereas those born to blacks weighed 297 g less. A greater proportion of black mothers than of white mothers were unmarried (84% vs. 20%), were teenage mothers (27% vs. 6%) and had had inadequate prenatal care (13% vs. 6%). Lower proportions of blacks than of whites had completed high school (62% vs. 86%) and were giving birth for the first time (26% vs. 39%).

The average birth weight of babies of either race was highest in neighborhoods that were predominantly white (i.e., where more than 90% of births were to white women), and lowest in those neighborhoods that were predominantly black (i.e., where more than 90% of births were to blacks). Likewise, economic and social support measures differed sharply by neighborhood racial composition: Compared with predominantly white neighborhoods, those that were mostly black had a higher proportion of residents living in poverty (31% vs. 6%), a higher mean score on the scale measuring economic disadvantage (0.9 vs. −0.9) and a lower mean score on the scale measuring perceived neighborhood support and cohesiveness (−0.3 vs. 0.6).

The researchers ran several hierarchical linear regression models, estimated for blacks and whites separately, that predicted associations between neighborhood- and individual-level variables and mean birth weight. One controlled for maternal risk factors and infant gender only, the next added neighborhood racial composition and economic disadvantage, and another added neighborhood social support. The results indicate that much of the racial differential in birth weight was explained by individual-level variables: In the model controlling only for maternal risk factors and infant gender, the difference was reduced from 297 g to 154 g; adding controls for neighborhood racial composition and economic disadvantage lowered that difference to 121 g. Further controlling for neighborhood support yielded a birth-weight differential of 124 g.

The effect of maternal risk factors on infant birth weight was generally comparable among babies born to blacks and to whites. For example, in the fully adjusted model, the receipt of adequate prenatal care was independently associated with increases in mean birth weight among both blacks and whites (181 g and 132 g, respectively). Similarly, higher maternal education was related to birth-weight increases among blacks and among whites (20 g and 12 g, respectively); marriage was also associated with increases in birth weight (97 g and 87 g). There was no difference by race in the effect of the infant's gender on birth weight; male newborns of either race weighed 108–112 g more than female newborns. Black women giving birth for the first time experienced smaller decreases in their babies' birth weight than similar white women (reductions of 38 g vs. 79 g). While maternal age had no independent effect on birth weight among babies born to whites, each year older a black mother was when she gave birth, her infant's birth weight decreased by approximately 8 g.

Perceived level of neighborhood support was independently associated with birth weight among whites, but not among blacks. An increase of one standard deviation in the neighborhood support scale was related to a

significant 18 g increase in the mean birth weight of babies born to white women. Net of all variables, economic disadvantage was associated with a decrease in birth weight for blacks (15 g for each standard deviation increase in the disadvantage index), but not for whites. The neighborhood racial composition had no effect, however, on mean birth weight among babies born to women of either race.

The investigators acknowledge that their study is limited because it was not possible to pinpoint specific support components potentially associated with improved outcomes, detailed individual-level socioeconomic data were lacking, and an insufficient number of black women lived in supportive neighborhoods to assess whether blacks might accrue the same benefits from such support as whites. The researchers offer several possible mechanisms through which neighborhood support may improve birth weight. A supportive local environment may discourage harmful activities such as prenatal smoking and drug use, provide positive norms of health care–seeking behaviors and directly affect fetal growth by lowering the likelihood of biological response to stress. They conclude that the "growing evidence of the health benefits of neighborhood cohesion, support and engagement" may have important implications for public health policy and practice.–*L Remez*

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Youth Who First Got Drunk by Age 12 Have Relatively High Levels of Risky Sexual Behavior During College

College students who first became drunk at a young age have elevated odds of attributing episodes of unplanned or unprotected intercourse to drinking, according to findings from a survey conducted at more than 100 U.S. colleges and universities in 1999.[1] The odds of saying that drinking had led to unplanned intercourse during the current school year were twice as high among students who had first gotten drunk at age 12 or younger as among their peers who had first been intoxicated at age 19 or older; the odds of reporting that unprotected intercourse had resulted from drinking also were doubled among those who had had an episode of drunkenness by age 12. These results take into account a number of variables related to early drunkenness and change little when students' frequency of binge drinking and alcohol dependence are included as controls.

The analyses are based on data gathered from students at 119 four-year colleges in 40 states; the schools were public and private institutions of varying sizes, representing a cross-section of four-year colleges nationwide. More than 14,000 students completed the mail-in survey, which included questions about respondents' drinking habits and items that relate to criteria for diagnosing alcohol abuse or dependence. The researchers restricted the analyses to the 11,739 students who were aged 19 or older (the oldest age category in which respondents reported first having gotten drunk).

Asked how old they had been when they first got drunk, 3% of respondents said they had been no older than 12, 71% answered 13–18 years of age and 16% said 19 or older; 11% said they had never been intoxicated. Among 8,657 students who had consumed alcohol in the past year and had at some point drunk to intoxication, results of chi-square analyses revealed that the likelihood of having gotten drunk at a young age was elevated among younger students, males, whites, never-married respondents, those who had smoked cigarettes or marijuana at a young age, students whose parents did not disapprove of alcohol and those with at least one parent who had a drinking problem. These factors were used as controls in logistic regression analyses examining the independent effects of the age at which students first got drunk on various outcomes during college.

Nine percent of students in the sample met standard criteria for alcohol dependence, and 54% had binged (defined as having had five drinks in a row for men and four in a row for women) during the two weeks preceding the survey. The proportions who were alcohol-dependent and who had recently binged fell sharply as the age at which students had first gotten drunk increased; findings from the multivariate analyses confirmed that the odds of alcohol dependence and bingeing were highest among those who had first gotten drunk during the preadolescent or early teenage years and declined steadily thereafter.

Substantial proportions of students said that drinking had "caused them" to engage in risky sexual behavior during the current school year. Twenty percent said that they had had unplanned intercourse as a result of drinking; the proportion was 31% among respondents who had first gotten drunk at ages 12–15, fell to 13% among those who had first been drunk at age 19 or later, and was only 1% among those who had never been intoxicated. Similarly, whereas 10% overall reported that alcohol consumption had led to unprotected intercourse, the proportion declined from 18% of those whose first experience of drunkenness occurred at age 12 to 6% among those who had first been drunk at age 19 or older; it was less than 1% among students who had never gotten drunk.

In the multivariate analyses, students who had first gotten intoxicated before age 19 had elevated odds of having had unplanned sex because of drinking during the current school year. The odds ratio was 1.3 for those who had been 18 the first time they got drunk, climbed steadily to 2.4 for those who had been 13–15 years old and was 2.0 for those who had been 12 or younger. When frequency of binge drinking and alcohol dependence were added as controls, the odds ratios were reduced somewhat (1.1–1.7) but still indicated an increased risk of unplanned intercourse for respondents who had first been drunk at age 18 or younger

The regression analysis showed that the likelihood of having had unprotected sex increased steadily as the age at which students first got drunk decreased from 17 (odds ratio, 1.8) to 12 or younger (2.2). Again, when controls included frequency of bingeing and alcohol dependence, the effect was diminished, but the odds remained significantly elevated (1.4–1.7).

As the researchers note, their findings do not explain why early drunkenness is associated with risky sexual behavior later in adolescence. Among the possible reasons they suggest are that individuals who begin drinking at a young age tend to be risk takers in general, do not fully appreciate the potential consequences of risky behaviors and are predisposed to attributing their risky behavior to their alcohol consumption. In any case, the analysts conclude, the findings "underscore the need for physicians and other health care providers to query their patients about the age at which they began drinking and were first drunk, and to counsel them about the numerous risks to health that [are] associated with early onset of drinking."–*D. Hollander*

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Hysterectomy Rate Among Hispanic Women Is Only Half That of White Women

Hispanic women are less likely to undergo hysterectomy than are white women, according to an analysis of the 1998–1999 National Health Interview Survey (NHIS).[1] Only 12% of Hispanic women aged 25 or older have had the procedure, compared with 23% of white women. The gap between the two groups lessens with increasing acculturation and increased education among Hispanic women. For example, compared with white women who have no high school diploma, Hispanic women who are not high school graduates have about 60% lower odds of hysterectomy, but the odds are reduced by only about 30% among Hispanic women who have any postsecondary education.

The researchers analyzed the use of hysterectomy among Hispanic women because data on this subject have been lacking, largely as a result of the absence of accurate information on ethnicity in national surveys, and because other data point to underuse of medical services among Hispanic women. The NHIS is an annual study that collects health and health care utilization information on a representative sample of the American population. Since 1995, the NHIS has oversampled Hispanic and black households, providing more accurate estimates of health and behavior among these groups, and making possible this kind of analysis.

The researchers based their analyses on respondents' self-reported history of hysterectomy and identification with any of a variety of Hispanic subgroups. To determine women's level of acculturation, they examined whether the interview was conducted in Spanish, English or a combination of the two. They also classified women into three groups: born on foreign soil and living in the United States for fewer than 10 years, born on foreign soil and living in the United States for 10 years or more, and born in the United States.

Hispanic and white women differed significantly both in the proportions who had had a hysterectomy—12% vs. 23%—and in their background characteristics. Sixty percent of Hispanic women, compared with 44% of white women, were aged 25–44; 16% and 11%, respectively, were married. Among Hispanic women, 44% had no high school diploma, 23% had graduated from high school and 33% had some postsecondary education; by contrast, 14% of white women had not completed high school, 33% had graduated and 53% had had some further schooling. Higher proportions of Hispanic than of white women reported having a family income of less than twice the federal poverty level (55% vs. 24%), being in fair or poor health (17% vs. 12%) and having no usual source of medical care (16% vs. 7%).

In initial analyses, the interaction between ethnicity and education emerged as a key predictor of the odds of hysterectomy, a finding that was borne out by the results of logistic regression. Hispanic women without a high school diploma had roughly 60% lower odds of having had a hysterectomy than white women who were not high school graduates (odds ratio, 0.4). The gap closed, however, as education increased among Hispanic women: The odds were reduced by about 40% (odds ratio, 0.6) among those with a high school education and by 30% (odds ratio, 0.7) among those with some schooling beyond high school.

Because of the diverse backgrounds of Hispanic women, the researchers also evaluated the association between hysterectomy and education among women of different national origins. In these analyses, they found that for Cuban or Cuban American women and Puerto Rican women, level of education did not make a difference in the association—odds of hysterectomy were 40% lower among these groups than among white women regardless of whether they had schooling past high school. However, among women who identified themselves as Mexican, Mexican American or Chicano, the relative odds were lower for those who had less than a high school education (odds ratio, 0.4) than for those who had ever attended college (0.7). The pattern was similar for other Latin American women (odds ratios, 0.3 and 0.6, respectively).

Level of acculturation also had strong associations with the odds of hysterectomy. Hispanic women who had lived in the United States for fewer than 10 years were the least likely to have had a hysterectomy (odds ratios, 0.1 for those interviewed only in English and 0.3 when Spanish was used in the interview); those born in the United States had odds much more similar to their white counterparts' (0.7 and 0.5, respectively). As with particular ethnicity, education had a significant association with the likelihood of hysterectomy among Hispanic women when analyzed in conjunction with level of acculturation. Foreign-born Hispanic women with no college education had 60% lower odds of hysterectomy than white women; those with some college had a smaller reduction in odds (40%). No difference by education was found for U.S.-born Hispanic women.

One limitation of the data, the authors note, is that they were collected cross-sectionally, so it is not possible to determine when a woman had her procedure and how much her characteristics have changed since that time. The data set also does not allow for an analysis of parity or age at first birth, factors considered to be important predictors of hysterectomy.

The researchers point out that because Hispanic women had less education, lower incomes and poorer health status than white women—all factors with significant effects on hysterectomy rates—it is uncertain how much ethnicity alone accounts for the differences they found. The association between level of acculturation and hysterectomy, however, indicates that ethnicity may indeed have an independent effect. The researchers postulate that hysterectomy, which generally is used to treat conditions that are not life-threatening, may be overused among white women, rather than underused among Hispanic women. They suggest that the "next step in this research would be to look at the medical necessity of hysterectomy among Hispanic and non-Hispanic women and assess any differences." *–D. Feivelson*

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