Many Teenagers Who Say They Have Taken a Virginity Pledge Retract That Statement After Having Intercourse

Teenagers' responses to questions about their sexual intentions and behavior often are inconsistent over time, possibly because of changes in young people's social circumstances and identities, according to an analysis of data collected in two waves of the National Longitudinal Study of Adolescent Health (Add Health).[1] Half of youth who reported in Wave 1 that they had committed themselves to remaining abstinent until marriage reported no such commitment when interviewed again roughly a year later. The odds of such a reversal at Wave 2 were elevated among adolescents who had initiated intercourse between interviews and among those who repudiated born-again Christianity in the second interview. Similarly, one in 10 teenagers who initially reported being sexually experienced claimed never to have had sex when asked in the second interview; the odds of this change were raised among those who had taken a virginity pledge and those who said they had been born again since Wave 1.

Add Health is based on a nationally representative sample of youth who were in grades 7–12 at Wave 1 (in 1995). The analyst examined data collected in Wave 1 and Wave 2 (conducted in 1996) from two subsamples of participants. The first comprised 1,966 teenagers who reported in both waves on whether they had "taken a public or written pledge to remain a virgin until marriage," and whose answer in Wave 1 was affirmative; the second consisted of 5,156 respondents who answered a question about sexual experience in both interviews, and who reported in Wave 1 that they had had intercourse. After conducting bivariate analyses, the analyst used logistic regression to identify demographic, socioeconomic and psychosocial characteristics associated with retracting reports of virginity pledges and sexual experience.

In initial interviews, 13% of youth reported that they had taken a virginity pledge. However, more than half of this group—7% of all teenagers studied—denied having taken a pledge when questioned for the second wave. In the multivariate analysis, the odds of retraction were significantly elevated among males (odds ratio, 1.8), blacks (1.6), youth who had reported sexual experience at Wave 1 (3.2) and those who had experienced first intercourse between survey waves (3.2); the odds were reduced among adolescents who said that they answered sensitive survey questions honestly (0.5). Additionally, teenagers who considered themselves born-again Christians at Wave 1 had reduced odds of retracting a virginity pledge (0.3), and youth who repudiated born-again Christianity at Wave 2 had elevated odds of doing so (2.8).

Thirty-three percent of teenagers reported in Wave 1 that they had ever had intercourse, but the following year, one in 10 of these (4% overall) said that they were sexually inexperienced. When all covariates were controlled for, males, participants younger than 15 and those who did not speak English at home had about twice as high odds of retracting their initial report of sexual experience as females, older respondents and those living in an English-speaking household (odds ratios, 2.0, 2.4 and 2.3, respectively). The odds also were about doubled for youth reporting only one sex partner (1.9) and for teenagers who said in Wave 2 that they recently had been born again (2.0); they were more than doubled among respondents who reported in Wave 1 having pledged to remain abstinent until married (2.4) and those who reported in Wave 2 having recently taken such a pledge (3.9). Participants who said at either time that they did not answer sensitive survey questions honestly had reduced odds of retracting a report of sexual experience (0.6).

For comparative purposes, the analyst examined the proportions of teenagers retracting Wave 1 reports of less sensitive information than their sexual intentions and behavior. Notably, fewer than 1% gave inconsistent responses about demographic characteristics; fewer than 4% changed their responses about ear piercing or menstruation.

According to the analyst, it is important for researchers exploring adolescent health to "account for the fact that sensitive information [provided by teenagers] is less reliable than other data and the fact that reliability varies according to social context." She further notes that "if [teenagers] who deny their sexual pasts perceive their new history as correct, they will underestimate the STD risk stemming from their prepledge sexual behavior." Consequently, she concludes that health care providers should explicitly ask youth who have taken virginity pledges if they had had sex before taking the pledge, and programs that encourage virginity pledges should "ensure that pledgers know they bear the risks of previous sexual behaviors."—*D. Hollander*

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Early Pregnancy Failure: Misoprostol May Be Good Alternative to Surgery

Pregnancies that fail in the first trimester—ones that end in embryonic or fetal death or in incomplete spontaneous abortion, ones whose inevitable outcome is spontaneous abortion and ones characterized by the absence of an embryo in the gestational sac—traditionally have been managed with dilation and curettage. However, vaginally administered misoprostol may be an effective alternative to surgery for some women. The odds of successful treatment appear to be greatest for nulliparous women, those who are Rh-negative, and those who have lower abdominal pain or vaginal bleeding within 24 hours before receiving the misoprostol. These are the key findings of a secondary analysis of data from a multicenter study comparing the effectiveness and safety of misoprostol and vacuum aspiration for the treatment of early pregnancy failure.[1]

Participants in the study, which was conducted at universities in Florida, New York and Pennsylvania in 2002–2004, were randomly assigned to receive medical treatment or vac-

uum aspiration. Those in the medical treatment group had 800 mcg of misoprostol inserted into the vagina and returned to the study site two days later for a follow-up examination and ultrasound. If clinical signs of pregnancy were still evident, a second dose of misoprostol was administered; if the explusion was not complete five days later, women were offered vacuum aspiration. In telephone interviews 30 days after receiving the first dose of misoprostol, women reported any other treatment they had received since the procedure. The medical regimen was considered successful if explusion occurred within 30 days without the need for surgical intervention.

The analyses included 485 women who received the misoprostol regimen, among whom the overall success rate was 85%. Using results of univariable analysis that identified potential predictors of successful treatment, the researchers conducted logistic regression analysis to determine which ones were statistically significant in a multivariable context. They found that women who had had lower abdominal pain or vaginal bleeding in the 24 hours before receiving the misoprostol had elevated odds of successful treatment (odds ratios, 3.1 and 1.8, respectively), as did those who were Rh-negative (5.6) and those who had never given birth (2.3). The overall success rate was 92% or higher among women who had had lower abdominal pain, were Rh-negative, or were nulliparous and had had vaginal bleeding.

In a second set of logistic regressions, the researchers examined factors associated with explusion after a single dose of misoprostol. The likelihood of this outcome was significantly elevated for women who had had vaginal bleeding within 24 hours before the procedure (odds ratio, 1.8) and for women who were nulliparous (2.0) or had given birth only once (1.8). Notably, type of pregnancy failure and gestational age at the time of treatment were not significantly related to either overall success or success after one dose.

The researchers remark that "because women generally prefer some treatment to no treatment, the success rate of vaginal misoprostol for early pregnancy failure appears to be an advance in medical treatment." At the same time, they note that the likelihood of success after one dose of misoprostol may be the most important factor for women deciding between medical treatment and vacuum aspiration. "Health care providers," they conclude, "should discuss the options for treatment of early pregnancy failure with a keen sense of what the patient strongly desires." *—D. Hollander*

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Women, but Not Men, Living with a Same-Sex Partner Are Disadvantaged with Regard to Health Care Access

Analyses of data from a large, nationally representative sample of U.S. adults confirms findings from smaller-scale studies suggesting that lesbians are disadvantaged in terms of health care access; gay men do not appear to be similarly disadvantaged.[1] Women living with a female partner are less likely than those living with a man to have health insurance coverage, to have seen a health professional in the past year and to have a routine source of care; they have increased odds of having unmet medical needs because of cost issues. By contrast, men living with a male partner are significantly more likely than those living with a woman to have made a recent health care visit, but the two groups do not differ on the other measures of health care access that were examined.

The analyses were based on data collected for the National Health Interview Survey between 1997 and 2003; they included 614 respondents aged 18–64 who were living with a partner of the same sex and 93,418 who were living with a partner of the opposite sex when interviewed. Relationships between health care access and a wide range of variables that might affect it were examined in descriptive and logistic regression analyses. All analyses were conducted separately for females and males.

Women and men living with a same-sex partner were significantly younger and better educated than those living with a partner of the opposite sex; they were substantially less likely to have children living with them. Women living with a male partner were less likely than those living with a female to be employed. More than three-quarters of each group of women and men were white, but for women, the proportion was significantly higher among those with a same-sex partner than among those living with a man. In most other respects, background characteristics did not differ within gender by type of partner. The vast majority of respondents had yearly incomes of $20,000 or more, roughly half had never smoked cigarettes and more than two-thirds considered themselves to be in excellent or very good health.

In analyses controlling for all background characteristics, women living with a woman had significantly reduced odds of having health insurance (odds ratio, 0.6), of reporting a health care visit in the previous year (0.7) and of saying that they had a usual source of care (0.5); their odds of having forgone medical care in the past year because of cost issues were nearly twice those of women living with a male partner (1.9). Men who lived with a male partner had significantly elevated odds of having seen a health care provider in the last year (1.6); they had marginally elevated odds of reporting a usual source of care, and did not differ from men living with a female partner with regard to health care coverage or unmet medical needs.

Among both women and men, a significantly larger proportion of those living with a member of the opposite sex than of those who had a same-sex partner said that their partner had health insurance. The proportion of those with private insurance who reported that they were the policyholder was significantly higher among those with a same-sex partner than among those with a partner of the opposite sex; this difference was considerably more marked among women (83% vs. 40%) than among men (88% vs. 76%).

The analysts caution that their results may not apply to individuals not living with a partner and may have been influenced by unmeasured factors. Nevertheless, they contend that their findings "highlight the relevance of sexual orientation to health care access in the United States." They note the "important disparities" in health care access between women living with a female and those living with a male partner, and speculate as to why similar disparities do not exist among males. For instance, they suggest, the HIV epidemic may have changed gay men's approach to the health care system, and levels of dissatisfaction with health care may be higher among women than among men in same-sex relationships.

In addition to calling for "improved cultural competence" among providers who serve gay, lesbian and bisexual patients generally, the analysts "encourage the development of outreach programs aimed toward the lesbian

community to improve this population's regular use of health services."—*D. Hollander*

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Improving Work Situations During Pregnancy May Help Improve Outcome

Women whose jobs expose them to physically difficult and psychologically stressful conditions are at increased risk of having an infant who is small for gestational age, and the risk increases with the number of such conditions if they remain throughout pregnancy. However, according to a study of women who gave birth in Quebec in the late 1990s, if potentially detrimental conditions are removed before 24 weeks' gestation, a woman is at no greater risk than she would have been if the conditions had not existed at the start of her pregnancy.[1]

The study population consisted of women who delivered live singleton infants in six regions of Quebec between January 1997 and March 1999. To examine the relationship between occupational conditions and having an infant who was small for gestational age (i.e., whose birth weight was below the 10th percentile for gestational age), researchers conducted telephone interviews shortly after delivery with women who had worked at least 20 hours per week and had only one job at a time while pregnant. During the computer-assisted interview, women provided details about their work schedule, the posture and physical effort demanded by their job, the structure of their workday (e.g., breaks and work process), psychosocial conditions on the job (e.g., psychological demands and women's latitude to make decisions) and workplace environment (e.g., noise and exposure to secondhand smoke). They also provided information about their obstetric history, medical profile, family responsibilities and socioeconomic characteristics, and about their newborn's characteristics. A total of 5,977 women completed interviews—1,536 whose infant was small for gestational age and 4,441 controls.

Seven in 10 women reported that at the beginning of their pregnancy, they had been exposed to at least one of six specific occupational conditions that could pose a threat to their health or the health of their fetus: night working hours, irregular or shift work, standing at least four hours daily, regularly lifting loads weighing seven kilograms or more, noise, and a moderate or high level of job strain combined with little on-the-job support. About half had been exposed to one or two of these conditions, and one in five had been exposed to three or more. In Quebec, pregnant women in potentially risky occupational situations are legally entitled to be assigned to other tasks or, if that is not possible, to take a leave from work, receiving 90% of their salary until four weeks before their expected delivery date. Half of the women interviewed had taken advantage of one or both of these benefits.

In one set of logistic regressions, the researchers examined possible predictors of having one's job modified or taking leave from work to avoid exposure to potentially harmful occupational conditions. Results indicated that socioeconomic, lifestyle and medical characteristics were at best only weakly associated with the likelihood that women took these measures to reduce work-related risks. However, the likelihood was strongly associated with the presence of potentially harmful conditions at the beginning of pregnancy. Compared with women reporting none of the specified conditions, those reporting one had nearly three times the odds of taking preventive measures (odds ratio, 2.6); the differential grew steadily and sharply with the number of conditions (odds ratios, 7.1 for two conditions, 14.3 for three and 25.9 for four or more).

Another set of logistic regression analyses examined associations between a woman's likelihood of having an infant who was small for gestational age and her occupational conditions. These analyses indicated that the odds that an infant was small for gestational age increased steadily with the number of risky conditions present at the beginning of pregnancy; they were 30% higher among women with 4–6 conditions than among those with none. Moreover, if the conditions were not eliminated during pregnancy, the risk was significantly elevated (odds ratios, 1.3 for women with two potentially adverse conditions, 1.4 for those with three and 2.3 for those with 4–6). By contrast, if the conditions were eliminated before 24 weeks of gestation, the risk was no higher than it would have been in the absence of any potentially detrimental conditions at the beginning of pregnancy.

The researchers observe that their work largely confirms findings of earlier studies; however, they add, it builds on previous research by providing insight into the potential benefit of preventive measures. Their study, they conclude, "underscores the importance of taking into account modification of working conditions over the course of pregnancy in order to adequately evaluate their effects on pregnancy outcomes."—*D. Hollander*

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Frequency of HIV Testing Is Suboptimal Among Some Men Who Are at High Risk

Current guidelines recommend that men who have sex with men be tested annually for HIV, and results of a survey conducted among such men in six U.S. cities suggest how important that recommendation may be.[1] In a subsample of participants who had never tested positive for the virus before the survey, only 54% said that they had had an HIV test within the previous year; the rest had been tested in the more distant past or had never been tested at all. Tests taken in conjunction with the survey revealed that 10% of these men were infected; more than half of HIV-positive men had not been tested in the last year.

The analyses were based on data from the second phase of the Young Men's Survey, which was conducted in 1998–2000 in Baltimore, Dallas, Los Angeles, Miami, New York and Seattle. Survey respondents were 23–29-year-old men who were recruited at venues frequented by men who have sex with men; those who agreed to participate completed standard interviews, had blood drawn for HIV testing, received HIV counseling and, if appropriate, were given a referral for care. Only respondents who had never had a positive HIV test result before the survey were included in the analytic sample. The analysts used logistic regression to identify characteristics associated with recent HIV testing and, among those who had been tested recently, anonymous testing, testing because of exposure to risk and receipt of counseling with testing.

Of the 2,797 men in the sample, 50% were white, 24% Hispanic, 19% black and the rest members of other racial or ethnic groups. The

majority had at least some postsecondary education and were employed. Sixty-three percent had a regular health care provider; of this group, 69% felt that it was important to receive HIV prevention services from their provider, and 57% had ever discussed HIV testing with their provider. Fifty-four percent of the sample had had an HIV test within the last year, and 46% had had one longer ago or had never been tested.

Men aged 23–25 were significantly more likely than those aged 26–29 to have been tested within the last year (odds ratio from multivariate analysis, 1.2), and those whose annual income was $30,000 or more had higher odds of recent testing than those with an income of less than $15,000 (1.3). Participants who had disclosed their sexual orientation to many persons and those who were aware of highly active antiretroviral therapy (HAART) had elevated odds of having been tested recently (1.3 and 1.5, respectively), as did respondents who had been recruited at a site other than a gay social organization, users of illicit drugs, men who had had six or more male partners, those who had had an STD, those who considered themselves unlikely to be infected with HIV and those who had told new sex partners in the previous six months their HIV status (1.2–1.8). Respondents who had a regular health care provider and said that their provider had discussed HIV testing with them were more likely than those who either did not have a provider or had not discussed testing to have had a test in the last year (1.9), and men who used a provider and considered prevention services important had greater odds of having been tested than those who did not have a provider or did not consider these services important (1.4).

In tests taken as part of the study, 10% of respondents were found to be HIV-positive; of this group, 46% had tested negative within the year preceding the survey, and 54% had not been tested recently. The 271 HIV-positive men reported having had a total of 1,796 male partners and 89 female partners in the six months before the survey; the majority of partners (68% of males and 70% of females) were reported by men who had not been tested within the last year.

Among men who reported a recent HIV test, half had undergone anonymous testing. The odds that HIV testing was anonymous were elevated for white men; those who had no health care provider or had not discussed testing with their provider; those who had been tested at a site other than a private physician's office, a health maintenance organization or a hospital; those who had sought the test because of exposure to risk and those who had received counseling (odds ratios, 1.3–11.6).

Half of men who had recently been tested had been motivated by concern about exposure to risk. Risk-based testing was particularly likely among men who were aware of HAART, men who had ever had anal intercourse without using a condom, men who had been tested anonymously, men who had asked at least one recent new sex partner about his HIV status and men who had reduced their risks after being tested (1.3–1.8).

Either before or after receiving their results, three-fifths of respondents reporting a recent HIV test had received counseling that covered HIV and AIDS, HIV therapy, reasons for testing, risk behaviors or risk reduction. The likelihood that men had received counseling along with their testing was increased for those whose provider had discussed testing with them, those who knew of HAART, those who had had unprotected anal sex, those tested at a public clinic, those who considered counseling important and those who had reduced their risks after testing (odds ratios, 1.5–2.9).

Nearly half of participants who had had an HIV test within a year before the survey said they had reduced their HIV risk because of the testing or counseling experience. Nevertheless, 8% were HIV-positive when tested for the study. The proportion who had seroconverted was 24% among blacks and 1–6% among other racial and ethnic groups; it did not differ by reason for testing or by whether the men had received counseling.

The analysts consider many of their findings encouraging, including the level of use of health care, the importance that respondents attached to receiving prevention services and counseling, and the association between testing and risk reduction. However, they speculate that seroconversion rates and risky behavior among respondents who had not been tested recently may suggest that some men underestimate their level of risk. The findings, the researchers conclude, "underscore the urgency for renewed initiatives and policies to increase HIV testing and risk reduction among young [men who have sex with men], especially those who are black."—*D. Hollander*

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Both Parents' Immigration Status Is Associated With the Likelihood That an Infant Is Breast-Fed

Immigrant women participating in a multisite, longitudinal study were more likely than their U.S.-born counterparts to breast-feed, but the longer foreign-born women lived in the United States, the less likely they were to breast-feed.[1] Similar associations were found between fathers' place of birth and the odds that an infant was breast-fed. In addition, the findings partly contradict the so-called Hispanic paradox—the well-documented observation that Hispanics tend to have unexpectedly good health outcomes, given their socioeconomic status—in that U.S.-born Hispanics breast-fed at rates similar to those among U.S.-born non-Hispanics.

The data came from a survey conducted among women who gave birth in 1998–2000 at 75 hospitals in 15 states and the fathers of their infants. To examine immigration status and ethnicity as determinants of breast-feeding, analysts used information collected from 4,207 mothers and 3,013 fathers just after the birth and in follow-up interviews about a year later. They used logistic regression to identify characteristics associated with the likelihood that a woman had breast-fed the infant at all and, if she had, whether she had done so for at least six months.

At baseline, women in the sample were 25 years old, on average; the majority were single, had at least a high school education and had been employed at some time during the year preceding the birth. Twenty-seven percent were Hispanic, 22% were white and 47% were black; 15% said that their baby's father was not of their race. Eight in 10 of the women were U.S.-born; immigrants had lived in the United States for an average of almost 10 years. For 39% of the women, this birth was their first; overall, 82% had seen a physician during the first trimester of pregnancy, and 19% had smoked while pregnant. Nine percent had had a low-birth-weight infant. Fifty-seven percent of the women breast-fed at all during the follow-up period; 36% of this group breast-fed for at least six months. The

fathers in the sample were, on average, 28 years old at baseline; two-thirds had a high school or higher education.

The first set of multivariate analyses indicated that U.S.-born women were significantly less likely than immigrants to breast-feed at all (odds ratio, 0.2) and to do so for six months or more (0.3). Furthermore, for every year that an immigrant woman lived in the United States, her odds of breast-feeding declined by 4% and her odds of doing so for at least six months declined by 3%. White and Hispanic women did not differ on either breast-feeding measure; blacks, however, were significantly less likely than Hispanics to breast-feed at all.

Other findings were consistent with results of earlier research. The odds of breast-feeding were elevated for women having a first birth; those who had, or whose baby's father had, more than a high school education; and those who had visited a physician during the first trimester of pregnancy. Single women and smokers had reduced odds of breast-feeding, and the likelihood of breast-feeding declined as maternal age increased. The likelihood of breast-feeding for at least six months was similarly associated with marital status, mother's education and smoking; however, first-time mothers had reduced odds of breast-feeding for six months or more, as did women whose infant had a low birth weight.

A second set of regression analyses, controlling for fathers' place of birth rather than mothers', indicated that infants whose fathers were U.S.-born were less likely than others to be breast-fed (odds ratio, 0.2) and to be breast-fed for six months or more (0.5). For each year that a foreign-born man had lived in the United States, his baby's odds of being breast-fed at all and for at least six months were reduced (by 5% and 2%, respectively).

In an examination of breast-feeding rates (adjusted for all of the characteristics included in the multivariate analysis), the analysts found that 89% of immigrants and 52% of U.S.-born women breast-fed at all; within each group, rates among Mexicans, other Hispanics and non-Hispanics were statistically indistinguishable. Overall, 54% of foreign-born and 30% of U.S.-born women who breast-fed did so for at least six months, and these rates varied by ethnicity: Among immigrants, non-Hispanics had a significantly lower rate (40%) than either Hispanic group (59% for each); among U.S.-born women, non-Hispanics (32%) had a significantly higher rate than non-Mexican Hispanics (21%).

The analysts acknowledge that their data do not permit them to identify causal mechanisms underlying the differences they found in breast-feeding behaviors, which they suspect are attributable to differences in cultural norms. However, they conclude that their findings leave no doubt "that [two] populations, Hispanics born in the United States and fathers, should not be overlooked in breast-feeding promotion efforts."—*D. Hollander*

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Sex in the Media: Links To Behavior Differ Between White and Black Teenagers

The influence of exposure to media with sexual content on teenagers' sexual activity differs for white and black youth, according to results of a longitudinal study of middle school students in North Carolina.[1] In analyses controlling for demographic characteristics, reported levels of precoital sexual activity and intercourse among both whites and blacks were positively related to exposure to sexual content in media. However, when psychosocial variables were taken into account, the relationships remained significant only for white teenagers; key factors in blacks' likelihood of having intercourse were their peers' sexual norms and their parents' attitudes and involvement in their daily lives.

Study participants were 1,017 students in 14 public middle schools who completed an audio computer-assisted self-interview about media and health behaviors in 2002, when they were 12–14 years old, and a follow-up interview two years later. In the baseline interview, respondents were asked about their use of four media—television, movies, music albums and magazines. They also were asked how frequently they watched, listened to or read specific media offerings on an extensive list, all of which had been analyzed for sexual content. For each teenager, the researchers calculated a "sexual media diet" score, which summarized the degree to which the adolescent was exposed to media with sexual content and the frequency with which the youth used them. They conducted multivariate regression analyses to assess associations between sexual media diet at baseline and two sexual behavior outcomes at follow-up: participation in precoital activities and intercourse.

At baseline, the sample was evenly divided between blacks and whites, and between males and females; participants' average age was about 14 years. One-third of students were classified as being of low socioeconomic status. Responses to scaled items indicated that the teenagers generally felt connected to school and achieved good grades; religion was moderately important to them. On average, they considered their relationships with their mothers quite good, said that their parents strongly disapproved of adolescent sexual activity and reported that their parents regularly engaged in five of eight specified activities with them. Respondents generally considered their pubertal development to be in line with that of their peers, and believed that about half of their friends had had sex.

During the first interview, 21% of black participants and 4% of whites said that they had had intercourse; 8–44% of blacks and 5–44% of whites had engaged in each of five precoital activities (in increasing order of frequency, oral sex, touching genitals, touching breasts, French kissing and light kissing). At follow-up, 46% of blacks and 18% of whites reported having had intercourse; the proportions reporting the specified precoital activities ranged from roughly 25% to 75% in each group.

In an ordinary least squares regression analysis that controlled only for demographic characteristics, the higher the sexual media diet score, the more precoital behaviors black teenagers reported at follow-up. Increasing age, being male and the perception of having experienced puberty early also were positively associated with the number of precoital sexual activities among blacks. However, when baseline precoital sexual behavior and the psychosocial variables were included, exposure to sexual media was no longer significant; only low socioeconomic status, the perception of early puberty and precoital sexual experience at baseline were associated with an elevated level of precoital sexual activity.

By contrast, for whites, exposure to sexual media was positively associated with precoital sexual activity in the initial analysis, and the association remained significant when the psychosocial variables were added to the model. Baseline precoital sexual behavior also was positively associated with precoital sexual activity, and parental disapproval of teenage sex and a high degree of religiosity were negatively as-

sociated with this outcome.

Results of Cox regressions assessing the relative risk of sexual intercourse were similar. For blacks, each 20% increase in the sexual media diet score was associated with a 14% increase in a youth's risk of having intercourse in a model controlling only for demographic characteristics. However, when the other variables were included, exposure to sexual media was no longer significant; in this model, the risk of intercourse declined with parental involvement in teenagers' daily activities (relative risk ratio, 0.9) and with parental disapproval of teenage sex (0.7), and increased with the perceived proportion of peers who were sexually active (1.5).

For whites, in the initial model, each 20% increase in sexual media diet score was associated with a 50% increase in a teenager's risk of engaging in intercourse; the increase in risk was still significant, although smaller (30%), in the full model. The risk of intercourse was lower for males than for females (relative risk ratio, 0.4), and it declined as parental disapproval of sex increased (0.5) and as grades rose (0.8); the greater the perceived proportion of sexually active peers, the higher an adolescent's risk of having had intercourse (1.4).

The researchers point out that the relationship between sexual content of media and early sexual activity has not been extensively explored. Despite the limitations of their study—mainly that the sample was not nationally representative, the analyses did not account for all factors that may influence early sexual behavior and the Internet was not included as a source of exposure to sexual material—they call it "one of the first...to establish the basic connection." Noting that it took many years to establish a link between violence in the media and children's violent behavior, the researchers caution that "it may be prudent not to wait decades to conclude that the media are also important sources of sexual norms for youth."—*D. Hollander*

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Women Aged 40 and Older Have Greatest Likelihood Of Stillbirth; Teenagers Also Have an Elevated Risk

Teenagers and women aged 35 or older are at significantly higher risk of having a stillbirth than are women in their 20s and early 30s, and the association remains even once a large number of known risk factors for stillbirth are taken into account, according to a study based on nearly six million deliveries that occurred nationwide between 1995 and 2002.[1] The greatest risk of stillbirth is among women aged 40 or older; the odds of stillbirth in this age-group are almost twice those among women aged 20–34.

Because most studies of the relationship between maternal age and stillbirth have been conducted in hospitals or among homogeneous populations, researchers revisited the issue using a database that includes about 20% of all patients admitted to nonfederal U.S. hospitals and represents a diverse population of women giving birth. The database contains information on about 5.9 million women who were hospitalized for a delivery during the study period, of whom 12% were 19 or younger, 75% were aged 20–34, 11% were aged 35–39 and 2% were 40 or older. (Virtually all were 12–47 years old.) The researchers examined data on these women's risk factors for stillbirth, calculated rates of stillbirth and used multiple logistic regression to assess the relationships between maternal age and other characteristics and the likelihood of stillbirth.

The racial and ethnic makeup of the study population and the prevalence of known risk factors for stillbirth differed by age-group. White women and Asians and Pacific Islanders were overrepresented among mothers aged 35 or older, and blacks and Hispanics were overrepresented among those younger than 35. The proportion of women who had multiple gestations increased steadily from less than 1% among teenagers to nearly 3% among women aged 40 or older. Hypertension was most common among the youngest and oldest mothers (affecting 8% and 11%, respectively), and rates of tobacco dependence and infection of the amniotic cavity declined with age (from 2–3% among teenagers to less than 2% among women aged 40 or older). One percent of teenagers had diabetes, but the rate rose rapidly with age, to 10% among the oldest mothers. Whereas the proportion of women experiencing placenta previa (implantation of the placenta close to or over the opening to the birth canal) increased steadily with age, the proportion experiencing placental abruption (separation of the placenta from the uterus) was relatively high at the extreme ages but dropped among women in their 20s and early 30s; a similar pattern was found in rates of fetal abnormality.

Stillbirths accounted for about 15 of every 1,000 deliveries for mothers aged 12–13; the rate dropped precipitously, to nine per 1,000, by age 15 and remained below that level until the mid-30s. By age 37, it again exceeded nine per 1,000, and after a steady climb, it reached nearly 22 per 1,000 among 47-year-olds. The pattern was the same, although rates were lower, in analyses excluding multiple gestations. Furthermore, the incidence of stillbirth changed little over the study period, and similar disparities by maternal age were apparent in each year.

Results of the multivariate analysis indicated that teenagers and women aged 35 or older were significantly more likely than 20–34-year-olds to have a stillbirth (odds ratios, 1.1 for women aged 19 or younger, 1.3 for those in their late 30s and 1.7 for those aged 40 or older). Asians and Pacific Islanders had lower odds of stillbirth than white women (0.9), but the likelihood of this outcome was elevated among other nonwhite women (2.1 for blacks, 1.2 for Hispanics and 1.5 for Native Americans). The odds of stillbirth were elevated for women who had multiple gestations (6.2) and for those who had various diseases or substance dependence—for example, hypertension (1.1), tobacco dependence (1.1), other substance use or dependence (1.7) and infection of the amniotic cavity (5.1). Diabetes, a known risk factor for stillbirth, was not associated with its occurrence in these analyses. Several placental problems predicted an increased likelihood of stillbirth; notably, the odds were eight times as high among women with placental abruption as among those who did not have this condition. Fetal abnormality was associated with a dramatic increase in the odds of stillbirth (19.0).

Despite the advantages of the database, the researchers note that it also imposed certain limitations on the study. For example, the definition of important concepts, such as gestational age, was not standardized, and some potential risk factors were not coded and therefore could not be included in the analyses. However, the researchers comment that their finding of an increased risk of stillbirth

among mothers at the extremes of the age spectrum, and the persistence of this association in multivariate analysis, suggests that the mechanism underlying the link between maternal age and stillbirth requires further exploration "so that appropriate interventions and improved outcomes can be obtained." —*D. Hollander*

REFERENCE

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Early Prenatal Care Does Not Close Racial Gaps In Perinatal Mortality

Even when they obtain early prenatal care, women who belong to racial and ethnic minority groups are more likely than white women to experience perinatal mortality—the loss of a fetus or the death of an infant within four weeks after birth. In a large, multicenter study of women who received care during their first trimester, perinatal mortality occurred in 10.0 pregnancies per 1,000 among white women, 15.9 per 1,000 among Hispanics and 42.1 per 1,000 among blacks. The racial disparities remained in analyses adjusting for a wide range of variables that may be associated with pregnancy outcomes.[1]

Racial disparities in perinatal mortality have been documented for decades. To assess whether they persist when women obtain early prenatal care, analysts examined data from a study of obstetric patients recruited at 10–13 weeks of gestation at 15 sites in nine states in 1999–2002. The database included detailed information about women's demographic and health characteristics, obstetric history and pregnancy complications. Racial differences in women's characteristics and pregnancy complications were assessed through chi-square tests or analyses of variance; odds ratios were calculated to estimate differences in perinatal mortality.

A total of 35,529 pregnancies were included in the analyses, of which 5% were among blacks, 22% among Hispanics, 68% among whites and 5% among women of other races or ethnicities. On average, black and Hispanic women were younger and had less education than white women and others, and significantly lower proportions were married. White women had the lowest average body mass index and the lowest levels of use of antihypertensive medication before pregnancy and of pregestational diabetes. Blacks reported the highest levels of tobacco and illicit drug use during pregnancy; whites, the highest level of alcohol consumption. Both the proportion who had ever had a miscarriage and the proportion who had had a preterm birth were highest among blacks.

The frequency of all 13 pregnancy complications examined differed significantly among racial groups. Notably, the proportions of women experiencing intrauterine growth restriction, preterm or very preterm birth (i.e., birth prior to 37 or 32 weeks' gestation) and cesarean delivery were highest among blacks and lowest among whites.

Thirteen pregnancies per 1,000 resulted in fetal losses or neonatal deaths, but the rate differed substantially by mother's race. It was 10.0 per 1,000 for white women, 15.9 per 1,000 for Hispanics, 42.1 per 1,000 for blacks and 16.6 per 1,000 for other women. According to analyses controlling for all of the background characteristics studied, women in any minority group were more likely than whites to experience perinatal mortality (odds ratios, 1.5 for Hispanics, 3.6 for blacks and 1.8 for women of other races). Separate analyses for three components of perinatal mortality yielded similar results: Compared with white women, blacks had sharply higher odds of experiencing fetal loss at fewer than 24 weeks of gestation, fetal loss later in gestation or neonatal death; Hispanic and other women had intermediate risks of these outcomes.

As the analysts point out, the data do not present a complete picture of the adequacy of patients' prenatal care; although a visit early in pregnancy was an eligibility requirement for study enrollment, neither the frequency nor the content of visits was documented. Nevertheless, they emphasize that the prospective nature of the data collection from a large, unselected population of pregnant women is a major strength of their data source.

The analysts contend that although their findings "implicate race as an independent... factor" in perinatal mortality, research on genetic diversity makes this conclusion "untenable." Rather, they suggest, the racial disparities may stem from "cultural differences [that] often parallel racial and ethnic lines," such as differences in nutritional status and use of health care services. Racial disparities in perinatal mortality, they conclude, must be further explored and addressed, because "prenatal care, although unequivocally helpful and necessary, remains insufficient...for minority women."—*D. Hollander*

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