

Low-Birth-Weight Risk and Mother's Nativity Status: Associations Vary by Race, Ethnicity and Education

Immigrant women are less likely than U.S. natives to have a low-birth-weight baby, but analyses of national data show that the association varies by race or ethnicity and by educational level.¹ Overall, immigrants who gave birth in 1998 had 15% lower odds than U.S.-born women of having a low-birth-weight baby. The odds were reduced for foreign-born black and Hispanic women, but were elevated for Asian immigrants; among white women, nativity status was not associated with the likelihood of having a low-birth-weight baby. White, black and Hispanic immigrants with fewer than 12 years of schooling were less likely than their native-born counterparts to have a low-birth-weight baby, but findings were inconsistent among better educated women.

The analyses, based on data from the Detail Natality Set, included more than two million singleton births to women aged 20 and older, of whom 68% were white, 15% black, 3% Asian and 14% Hispanic. In addition to maternal nativity status, race, ethnicity and education, the data set provides information on behavioral and medical factors that could increase women's risk of having a baby who is low-birth-weight (defined as less than 2,500 g). In a series of logistic regressions controlling for these factors, the analysts examined relationships between nativity status and low birth weight, paying particular attention to whether associations varied across racial and ethnic groups and by socioeconomic status (as indicated by mother's level of education).

In each racial and ethnic group, infants were about evenly divided between males and females; most were born to women who had given birth before. Nine in 10 mothers in each group were younger than 35. The majority of white and Asian mothers had had more than 12 years of schooling, and the majority of blacks and Hispanics had had a high school education or less.

Behavioral and medical risk factors varied by race and ethnicity. For example, the proportion of women who had received adequate prenatal care was about two-thirds among black and Hispanic women, three-quarters

among Asians and eight in 10 among whites. Nine in 10 whites and Asians were married, compared with two-thirds of Hispanics and four in 10 blacks. Levels of smoking and drinking were lower among Asian and Hispanic mothers than among white and black women. While the proportions of women with chronic hypertension and anemia were highest among black mothers, the proportion with diabetes was highest among Asians.

Overall, 5% of white and Hispanic women, 6% of Asians and 11% of blacks had a low-birth-weight baby. The proportion was greater among foreign-born Asian women than among their native-born counterparts, but the relationship was reversed for the other racial and ethnic groups. Reductions for blacks and Hispanics were particularly striking (about 30% and 20%, respectively).

Findings from the first set of multivariate analyses revealed that black, Asian and Hispanic women were significantly more likely than white women to have a low-birth-weight baby (odds ratios, 2.4, 1.8 and 1.3, respectively) and that the odds of this outcome were 15% lower for immigrants than for women born in the United States. Foreign-born black and Hispanic women had 23% lower odds than their U.S.-born counterparts of having a low-birth-weight baby. For Asians, however, the odds were elevated by 29% among immigrants, and for whites, nativity status was not significantly associated with the likelihood that a baby was low-birth-weight.

When the analyses were stratified by race or ethnicity, findings regarding nativity status were similar to those in the initial analyses. Furthermore, across racial or ethnic groups, women generally had an elevated likelihood of bearing a low-birth-weight baby if they were 35 or older, were unmarried, had not received adequate prenatal care and smoked or drank during pregnancy. Their risk increased if they had had chronic hypertension, preeclampsia or eclampsia, or placental bleeding disorders. Findings with regard to education varied among racial and ethnic groups: For white women, the risk of low birth weight rose steadily

as educational attainment declined (odds ratio, 1.6 for those with less than a high school education); the same was true for black women, although the increase was less dramatic (1.3 for the least educated women). For Asians and Hispanics, the association was weaker and less consistent.

The final set of analyses examined whether associations with nativity status varied by race or ethnicity and education. Results showed that for black women, the reduction in the likelihood of having a low-birth-weight baby associated with being foreign-born diminished steadily as level of education increased. For example, the least educated black immigrants had a 36% lower risk than their U.S.-born counterparts; the best educated, a 20% reduction in risk. Results for Hispanics were similar: Immigrants' risk was reduced more among those with less than a high school education than among those who had completed high school (29% and 17%, respectively), but it was not reduced among women with postsecondary education. No clear pattern was apparent for Asian women; the risk of low birth weight was elevated only for immigrants with 13–15 years of schooling (odds ratio, 1.5). Foreign-born white women with less than a high school education had an 18% lower risk than their U.S.-born counterparts, but no associations were significant for better-educated women. Within racial or ethnic groups, associations were stronger for women born in the United States than for immigrants.

The analysts acknowledge that the data do not allow them to assess the mechanisms accounting for variations in low birth weight by race, ethnicity, nativity and education. Additionally, because education was the only available measure of socioeconomic status, they could not determine whether other socioeconomic characteristics influenced their results. For researchers to better understand low-birth-weight disparities among racial and ethnic groups, the analysts conclude, it will be necessary to explore such issues as the health status of immigrants, cultural factors, social support and socioeconomic context.—D. Hollander

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Detention Facilities Offer A Window to Screen Youth At High Risk for STDs

In addition to demographic characteristics, psychological, behavioral and family characteristics are associated with the risk of current chlamydial and gonorrheal infection among incarcerated adolescents.¹ According to data from a Southern juvenile detention facility, 21% of teenagers who reported sex in the three months before incarceration tested positive for chlamydia or gonorrhea. Among the overall sample, current STD infection was significantly associated with being female or black, having recently used alcohol before sex, having a greater lifetime number of partners and living in a stepfamily (odds ratios, 1.4–4.2). Predictors of infection differed for females and males.

To study the relationship between incarcerated adolescents' characteristics, beliefs and behaviors, and their risk of STD infection, researchers recruited participants from one juvenile detention facility in a Southern city between April 2002 and May 2003. Male and female adolescents aged 13–18 were approached for study participation within three days of incarceration and were asked to complete a survey about their demographic, psychological behavioral and family characteristics using audio computer-administered self-interview. In addition, the researchers asked for participants' permission to link survey data to urinalysis results of samples given during the booking process. The researchers used bivariate and logistic regression analyses to determine the variables significantly associated with current chlamydial and gonorrheal infection.

During the study period, 1,816 incarcerated adolescents aged 10–18 were screened for STDs; the majority were male and black. Of the 1,789 detainees for whom STD test results were available, 13% tested positive for chlamydia and 3% for gonorrhea. Some 690 adolescents completed the survey and allowed their survey data to be linked to their STD test results. Of this sample, 90% reported being sexually experienced and 65% reported having had sex recently (in the

three months before incarceration). The prevalence of STD varied by teenagers' reported sexual activity: Seven percent of adolescents who reported never having had sex tested positive for chlamydia or gonorrhea; the proportion was 13% for those who were sexually experienced but had not had sex recently, and 21% for those who had had recent sex.

In bivariate analysis of the 618 adolescents who reported sexual experience, several variables were significantly associated with current STD infection: gender; age; race; history of sexual abuse, alcohol use or STD; recent use of alcohol before sex; lifetime number of partners; condom use; family structure; parental supervision and monitoring; parental involvement; and parental communication. In multivariate analyses, five variables remained significantly associated with increased odds of chlamydial or gonorrheal infection: being female (odds ratio, 4.2), being black (3.4), having recently used alcohol before sex (2.0), increasing lifetime number of partners (1.4) and living in a stepfamily (2.5).

To further examine the associations between adolescents' characteristics and current STD infection, the researchers conducted separate multivariate analyses for each gender. For females, STD infection was positively associated with being black (3.8), having recently used alcohol before sex (2.8) and increasing lifetime number of partners (2.2); young women who believed that alcohol or drug use enhances sex were less likely than those who did not hold that belief to have an STD (0.9). For males, STD infection was very strongly associated with having a history of STD (22.3); in addition, increasing age and consistent condom use were associated with an elevated risk of STD (1.4 and 3.9, respectively), whereas believing that alcohol or drugs cause loss of control was associated with a reduced risk (0.8). In contrast to females, young men who believed that alcohol or drug use enhances sex were more likely than those who did not hold that belief to have an STD (1.2); however, the finding was only marginally significant.

Given the high STD rates found among the adolescents at the study facility and the increased HIV risk among those infected with an STD, the authors recommend "standard STD screening for all youth admitted to a youth detention facility." They comment that such facilities "offer a window in time when it is possible to test and treat very high-risk youths." Furthermore, in light of their finding that different factors predict STD acquisition among

females and males, the authors suggest that "individual-level interventions may be more effective when they are organized for sex-specific groups rather than in gender-neutral interventions."—*J. Rosenberg*

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Many Parents of Teenagers Think Parental Involvement Laws Will Increase Risks

Parents of adolescents in Minnesota and Wisconsin are divided in their support of laws requiring parental involvement in minors' reproductive health care, but they are nearly unanimous in expecting that such laws will breed negative consequences.¹ Fifty-five percent of parents participating in a 2002 survey said that overall, proposed laws requiring that parents be notified before their minor children obtain prescription contraceptives are a good idea. Nevertheless, 96% would expect such requirements to have some negative outcome, such as decreased use of effective contraceptives and increases in unprotected intercourse, pregnancies and STDs among teenagers. Parents' likelihood of supporting parental notification laws fell as the number of negative consequences they expected rose.

A total of 1,069 parents of 13–17-year-olds completed the population-based telephone survey, which elicited respondents' views on three key issues: the right of minors younger than 18 to receive contraceptive services at a clinic without parental consent; a specific requirement for written parental notification that would entail several days' delay before the minor could receive the requested service; and the overall idea of parental notification. The survey also asked parents which of 11 consequences (four positive and seven negative) they thought would follow from implementation of a parental notification law, and which of six possible exceptions such a law should allow.

The majority of respondents were female (68%), in their 40s (66%), white (89%), and either Catholic or Protestant (86%). Three-quarters had some postsecondary education, and half had an annual household income of \$41,000–80,000. Forty-one percent of parents characterized themselves as politically conservative, 38% as middle-of-the-road and 19%

as liberal. Respondents were about equally divided between parents of male and female 13–17-year-olds.

Forty-nine percent of respondents believed that minors should be permitted to obtain contraceptives without their parents' consent, and 33% considered this a bad idea. Written parental notification was supported by 42% of parents and opposed by 32%. In general, 55% of parents favored parental notification, and 28% considered it a bad idea. The remaining 17–26% of respondents said that these were neither good nor bad ideas.

Overall, 53% of parents thought that a parental notification requirement would have at least one positive consequence—mainly, that it would encourage minors to more carefully weigh the decision to have sex (42%) or to talk to their parents (33%). Fifteen percent believed that teenagers would have less sex if their parents were notified about their seeking contraceptive services, and 4% thought that they would stop having sex. The proportion anticipating that three or all four of these outcomes would occur was low (10%).

By contrast, 96% of parents would expect at least one negative consequence to result from a parental notification requirement, and 48% would expect five or more. The most common concerns were that teenagers would use nonprescription contraceptives (76%) and that they would increasingly have unprotected sex (67%). Three in five respondents thought that pregnancies or STDs would occur with growing frequency among teenagers, or that teenagers would stop or delay getting contraceptives. Nearly half believed that minors would not go to clinics or would travel out of state for contraceptive services if their parents had to be informed of a clinic visit.

When presented with a list of possible circumstances in which parental notification requirements might be waived, 86% of respondents favored at least one. Support was highest for situations involving abuse or incest (68%). Other circumstances in which at least half of parents approved of waiving parental notification were when a judge granted permission for the youth to obtain services (60%), the minor was in danger of being harmed by a parent (57%) and the teenager had a poor relationship with her parent (51%). One-third of parents would favor exceptions for 16–17-year-olds and for teenagers who had discussed their contraceptive decision with some adult.

In logistic regression analyses controlling for parents' characteristics and attitudes toward

parental notification laws, the odds of support for parental notification in general more than doubled for every positive consequence a parent expected (odds ratio, 2.3). The odds declined with the number of negative consequences anticipated (0.9) and with the number of exceptions that parents favored (0.7). In addition, the more liberal respondents considered themselves, the less likely they were to support parental notification (0.6). No other factors were significantly associated with support.

In this sample, parents' support for parental notification laws were closely tied to their expectations of the outcomes. Therefore, the researchers suggest that it may be worthwhile for health care providers to educate parents about the "likelihood of adverse consequences (e.g., increased rates of teen pregnancy and sexually transmitted infections) and the improbability of positive consequences (e.g., youth choosing abstinence)" of restrictions on adolescents' access to confidential reproductive health services.—*D. Hollander*

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Hospital-Based Clinic Visits By Women Seldom Include Routine Screening for STDs

Routine STD screening of sexually active women aged 15–24, although recommended in federal guidelines, is uncommon in primary care visits at hospital-based clinics: In 1997–2000, only 4% of such visits by women in this age-group who had no genitourinary symptoms included testing for an STD.¹ Even when women of reproductive age report symptoms that could signal the presence of an STD, testing is infrequent; diagnostic tests were conducted in 13% of visits made by women reporting symptoms. Regardless of whether women were symptomatic, the likelihood of testing was elevated if the visit was for preventive care, if the woman was nonwhite and if the woman was younger than 25.

To assess rates of and factors associated with testing for STDs other than HIV, researchers analyzed data from a national probability sample of visits to outpatient clinics at the nearly 500 federal hospitals that participate in the National Hospital Ambulatory Medical Care Sur-

vey. They conducted separate analyses for screening of asymptomatic women and diagnostic testing of women with symptoms for which federal guidelines recommend STD testing (vaginal or urinary symptoms, abnormal vaginal bleeding, and abdominal or pelvic pain). The analyses are based on data for 17,458 primary care visits by nonpregnant 15–44-year-old women.

Complaints of genitourinary symptoms were recorded during 11% of visits. Urinary symptoms were the most common complaints (reported in 27% of visits by symptomatic women), and abdominal or pelvic pain the least common (17%). Compared with visits in which no symptoms were reported, visits that included complaints of symptoms more frequently were by nonwhite women (32% vs. 23%) and Medicaid participants (30% vs. 25%); they more often were to a gynecology clinic (40% vs. 15%), but less often were for preventive care (11% vs. 21%). Three in 10 visits by both symptomatic and asymptomatic women were made by 15–24-year-olds.

Overall, 4% of visits included an STD test; this rate included 13% of visits by women with genitourinary symptoms and 2% of visits by asymptomatic women. Diagnostic testing rates varied by type of symptom reported; the highest rate was 29%, for visits in which the woman complained about vaginal symptoms, and the lowest was 8%, for those in which urinary symptoms were reported. The highest screening rate was 10%, for visits to a gynecology clinic; 7% of preventive care visits and 4% of visits by women aged 15–24 included screening. By applying national data on sexual activity among young people to the screening rate observed in their study, the analysts estimate that only 12% of asymptomatic sexually active 15–24-year-old women who make primary care visits are screened for STDs.

Results of chi-square analysis revealed that rates of both screening and diagnostic testing were elevated if the woman was younger than 25, nonwhite or covered by Medicaid; they were higher at gynecology clinics than at general medicine or pediatric clinics, and higher if the purpose of the visit was preventive care than otherwise. Logistic regression analyses controlling simultaneously for all of these factors confirmed most of the associations. The odds of diagnostic testing were elevated in visits made by nonwhite women (odds ratio, 1.7), 15–24-year-olds (1.7) and Medicaid recipients (2.3); they also were raised in preventive care visits (2.0), but not in visits to a gynecology

clinic. The odds of STD screening were elevated in preventive visits (6.9), visits to a gynecology clinic (3.9), and visits by nonwhite women (4.3) and women aged 15–24 (1.2); Medicaid receipt was not associated with the odds of screening. Notably, preventive care visits by nonwhite women were significantly less likely than such visits made by white women to include an STD screening test (0.3).

Summing up their findings, the researchers note that “screening rates were influenced more heavily by type of visit, race, and clinic specialty than by age, the only factor for which screening recommendations exist.” However, this is not the only area in which STD testing in hospital-based primary care visits is lack-

ing: Many women with genitourinary symptoms that warrant diagnostic testing are not receiving it. Thus, while the researchers urge health professionals who see sexually active young women “to consider every health care visit as an opportunity for sexually transmitted infection screening,” they also press for interventions that will reinforce guidelines for screening asymptomatic women who obtain nonpreventive care from a variety of types of providers.—*D. Hollander*

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Teenagers’ Sexual Behavior Might Become More Risky If Parents Had to Know of Family Planning Clinic Visits

Most U.S. teenagers younger than 18 who use clinic-based sexual health services do so with their parents’ knowledge, according to an analysis of data from 79 family planning clinics across the country.¹ If parental notification were legally mandated, 59% of young women say they would go to a clinic for prescription contraceptives; however, 13% would use rhythm or withdrawal, and 6% would have sex without contraceptives. Only 7% would stop having sex. The strongest predictor of continued clinic attendance is having parents who know about current attendance.

A random sample of publicly funded clinics participated in the study. Staff distributed a questionnaire to women younger than 18 who were seeking sexual health services (other than abortion or pregnancy care) in 2003–2004. Respondents were asked about their demographic characteristics, sexual experience, contraceptive use and parents’ knowledge of their clinic visit, and about what they would do if clinics were legally required to notify parents when teenagers got prescription birth control. The final sample comprised 1,526 adolescents. Researchers used t tests and logistic regression to assess relationships between adolescents’ background characteristics and three outcomes: whether their parents knew they used the clinic for sexual health services, whether they would attend a clinic for birth control if a parental notification law were enacted and whether they would engage in unsafe sex (i.e., use withdrawal, rhythm or no method) in the case of such a mandate.

Most respondents (73%) were aged 16 or 17; 56% were white, 23% were black, 15% were Hispanic, and 7% reported other races and ethnicities. Twenty percent had mothers who were college graduates, 43% lived in two-parent households and 44% lived with a mother only. Nine percent had never had sex. Among sexually experienced young women, 90% had used a contraceptive at last intercourse; of these, just under half (45%) had used a hormonal method. Five percent of respondents had ever given birth, and 58% had gone to a clinic for contraceptive services in the past 12 months.

Parental Knowledge

Sixty percent of respondents said that a parent or guardian knew they came to the clinic. Moreover, 56% had told a parent voluntarily or had come at a parent’s suggestion; 5% said that parents had found out some other way. The most common explanation for parents’ ignorance of clinic attendance was not wanting parents to know about sexual activity (25%).

Bivariate analyses suggested that a number of factors were related to decreased levels of parental knowledge: being aged 15 or older, stating a race or ethnicity other than black, having a family structure other than mother only, having never given birth, not having used hormonal contraceptives at last sex or having never had sex, and having gone to a clinic for contraceptive services fewer than two times in the past year.

Multivariate analyses revealed that respon-

dents aged 16 and 17 were significantly less likely than those younger than 15 to report parental knowledge (odds ratios, 0.5 and 0.3, respectively). The odds ratios were significantly lower among Hispanics and “other” racial and ethnic groups than among blacks (0.3–0.4); among adolescents whose mothers were college graduates than among those whose mothers were high school graduates (0.5); and among respondents who lived with both parents or a nonparent than among those who lived with their mother only (0.5 and 0.6). Adolescents who had used a condom only or withdrawal at last sex were significantly less likely than those who had used a hormonal method to report parental knowledge (0.5 for both). Reporting fewer than two contraceptive visits in the past year was significantly associated with a decreased likelihood of parental knowledge (0.4–0.6), and having ever given birth was linked to an increased likelihood (2.5).

Responses to Parental Notification Laws

Of all respondents, 59% said they would still visit a clinic for birth control if parental notification were legally required. Forty-six percent would use over-the-counter methods, 18% would go to a private doctor for prescription birth control, 13% would use rhythm or withdrawal, and 6% would have unprotected sex (multiple responses were allowed). Seven percent would stop having sex, though only 1% indicated that this would be their only reaction.

At the bivariate level, a number of background characteristics were significantly associated with continued clinic attendance; four of these relationships persisted in multivariate analyses. Adolescents whose parents did not know they came to the clinic or had found out on their own had a significantly decreased likelihood of reporting continued attendance (odds ratios, 0.1 and 0.4, respectively). The likelihood was also significantly lower among respondents of “other” races and ethnicities than among blacks (0.5) and among respondents whose mothers had graduated from college than among those whose mothers were high school graduates (0.6).

Bivariate analyses revealed a range of indicators that adolescents might have unsafe sex in response to parental notification laws. When these factors were examined in multivariate analyses, the likelihood of indicating unsafe sex was significantly elevated among adolescents who were at the clinic without their parents’ knowledge (odds ratio, 2.6); said that their parents had found out against their wish-

es (3.2); were Hispanic or an “other” race or ethnicity (2.2 and 2.4); had a mother with some college education (2.2); had ever given birth (1.9); and had used withdrawal or no method at last sex (3.9 and 2.2).

The researchers acknowledge that their sample does not represent all U.S. adolescents and that respondents’ actual behavior may not replicate their reported intentions. They emphasize that “while a majority of all teenagers attending clinics expected that they would use clinic-based contraceptive services in the face of mandated parental involvement, this response was the majority only among adolescents with parents who already knew they were at the clinic.” Laws requiring parental involvement, they conclude, “would discourage few teenagers from having sex and would likely increase rates of adolescent pregnancy and STDs.”—R. MacLean

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For Male and Female Condoms, Failure Rates Fall As Users’ Experience Grows

Male and female condoms have fairly low rates of slippage or breakage, and such failure declines as users’ experience with the method grows, according to findings from a large observational study of women attending two Alabama STD clinics in 1995–1998.¹ For example, 3% of all female condoms slipped out of the woman’s vagina; the rate was 11% at first use, but it fell steadily to less than 1% if the method had been used 15 times or more. Similarly, 3% of male condoms broke during use—7% among first-time users, compared with 2% among those who had used male condoms 15 times or more. Multivariate analyses confirmed the association suggested by these rates.

To be eligible for the study, women had to be aged 18–35 and not pregnant or planning to become pregnant within the next six months. At their first study visit, participants completed an interview and received instruction on recording their sexual activity and condom use on a diary form. They then watched a videotape providing instruction on condom use, attended a skills-oriented counseling ses-

sion and were offered an opportunity to practice inserting the female condom under a nurse clinician’s guidance. Women received a supply of either male condoms or female condoms with male condoms as a backup. They were asked to return for six follow-up visits at four-week intervals. At each visit, women returned their sexual diary, answered questions about their sexual and contraceptive behavior in the previous 30 days, attended an individual counseling session and received a new supply of condoms.

The analyses were based on 869 women who used at least one condom during follow-up. The majority of these women were black and low-income; their median age was 24, and their median number of years of schooling was 12. Three in five women had used male condoms in the 30 days before entering the study, but only one in four had used them every time they had intercourse. Three women had ever used a female condom, and 95% practiced inserting the device at the clinic.

During the study period, the women used 7,895 female condoms and 12,253 male condoms. In all, 0.1% of female condoms broke, and 6% slipped (in 3% of cases, the condom slipped out of the vagina; in 3%, the outer ring of the device slipped in). Three percent of male condoms broke, and 1% slipped off the penis. The researchers used logistic regression to assess factors associated with condom failure, controlling for a range of user characteristics measured at baseline and over time.

Compared with women who were 30 or older when they entered the study, younger age-groups had higher odds of having a female condom slip out (odds ratios, 2.1–2.6), but not of having the device slip in. Other baseline characteristics (e.g., education, lifetime number of partners and STD history) were not significantly associated with the likelihood of slippage.

Factors measured over time showed a number of associations with slippage of the female condom. Notably, the rates of slipping out and slipping in were substantially above average at first use (11% and 8%, respectively) but fell precipitously thereafter; for women who had used the female condom 15 or more times, both rates were less than 1%. Likewise, in the regression analyses, the odds of slippage were significantly elevated for first-time users compared with those who had used the device 15 or more times (odds ratios, 18.5 for slipping out and 19.7 for slipping in). Previous slippage of a female condom also was associated with

increased odds of both kinds of slippage (2.7–2.8). In addition, having more than one sexual partner was associated only with an elevated likelihood of having a female condom slip out (1.5); having a casual partner and having had other problems with a female condom, only with an increased risk of the device’s slipping in (2.0 and 2.3, respectively). Women who had had a female condom break were at increased risk of having one slip out (3.7); this factor was not examined with respect to slipping in.

Women’s baseline characteristics had more associations with male condom failure than with female condom failure. Those who were younger than 20 were at risk of experiencing breakage (odds ratio, 1.9). Married women had increased odds of reporting slippage (1.9), as did those who had had a large number of partners (2.0 both for women reporting 6–7 partners and for those reporting 13 or more). Participants reporting alcohol or drug use in the past 30 days had a reduced likelihood of having a male condom slip (0.6).

Again, some of the most striking differences in failure rates were linked to experience with the method: The male condom breakage rate fell from 7% among first-time users to 2% among those who had used the method at least 15 times; the slippage rate dropped from 3% to 0.4%. In the regression analyses, the odds of breakage and slippage were significantly higher among first-time users than among those with the most experience (odds ratios, 6.0 and 7.9, respectively). Women who had had a condom break in the past were at increased risk of experiencing another breakage (3.6), and those who had had a male condom slip had elevated odds of repeating that experience (8.3). Other problems with male condoms and prior breakage of a female condom also were associated with an increased risk of slippage (2.8 and 3.1, respectively).

The researchers acknowledge three potential limitations of their study: The trial was not randomized, attrition was high and because participants received intensive instruction about the methods, they may have experienced lower failure rates than would typically be the case. However, the investigators contend that the study’s strengths—its large size, short recall periods and multiple data collection methods—more than make up for these weaknesses.

In conclusion, the researchers note that “either condom used correctly should provide protection against STDs.” Nevertheless, they caution that for some individuals at high risk

of acquiring an STD, condom failure rates may be “unacceptably high,” and health care providers should consider counseling such individuals to abstain from vaginal intercourse. —D. Hollander

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Prepregnancy Health Status Has Strong Associations With Preterm Delivery Risk

A woman’s risk of having a preterm delivery is influenced largely by conditions that occur during pregnancy, but a clinic-based longitudinal study in California demonstrates that her health status and health behaviors prior to conception also may play a substantial role.¹ In analyses controlling for demographic characteristics and risk factors both before and during pregnancy, the odds of preterm delivery were nearly doubled for women whose level of physical function before conception was poor and for those who had chronic hypertension before becoming pregnant. Factors that predated pregnancy accounted for 40% of the variability in risk of preterm delivery.

The study cohort comprised women who received prenatal care at a site affiliated with one of six hospitals in the San Francisco Bay area. To be eligible, women had to be at least 18 years old at recruitment (between May 2001 and July 2002), had to have begun prenatal care before 16 weeks’ gestation and had to be

planning to deliver at one of the six hospitals.

Participants were asked to complete four telephone interviews: before 20 weeks’ gestation, at 24–28 weeks, at 32–36 weeks and 8–12 weeks after delivery. Each interview included questions from a standard instrument assessing physical, mental and emotional health, as well as screening for depressive symptoms. Questions in the baseline interview referred to the month before conception, and those in later interviews referred to the previous four weeks. The baseline interview also collected detailed information about participants’ demographic characteristics and their medical conditions and health-related behaviors before pregnancy; subsequent interviews included questions about pregnancy complications. Additional data about the pregnancy and delivery were obtained from women’s medical records.

The researchers restricted their analyses to the 1,619 women who had a singleton delivery at one of the participating hospitals. Most of these women were married or living with a partner, had been born in the United States and had given birth before. The cohort was racially, ethnically and socioeconomically diverse.

Eight percent of the women delivered preterm (i.e., at less than 37 weeks’ gestation). Initial analyses suggested that a wide variety of factors were associated with the risk of this outcome; the researchers conducted a series of multivariate logistic regression analyses to determine which of these were independently associated with the odds of preterm delivery.

When only demographic characteristics were considered, the odds of preterm delivery were significantly elevated for black women (odds ratio, 1.9) and for women who completed high school but not college (1.7). With

the addition of conditions and behaviors in the month before conception, demographic characteristics were no longer significant; the odds were elevated for women who had been underweight (2.4), those whose physical function had been poor (2.3), those who had suffered from chronic hypertension (3.1) and those who had smoked (2.2). In analyses that included pregnancy-related factors, most of these associations remained significant (the exception was being underweight), although the odds ratios were reduced. Pregnancy-associated hypertension and other complications were associated with increased odds of preterm birth (3.2 and 2.2, respectively). The researchers estimate that 13% of the variation in the risk of preterm delivery was attributable to demographic factors, 40% to conditions and behaviors that preceded pregnancy and 47% to factors occurring during pregnancy.

The researchers caution that the associations they found are not causal and relate only to factors that were present immediately before conception; both a woman’s health status before pregnancy and her risk of delivering preterm may be associated with conditions that occurred earlier in her life. They conclude that “interventions and policies directed at improving access to care during pregnancy may fall short of the goal of reducing preterm delivery because they cannot address [a] legacy of poor health status and health behaviors.” Reducing the incidence of preterm delivery, they maintain, “may require attention to the health status of women before pregnancy.” —D. Hollander

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