HPV Infection Documented at 18% in Teen Girls. Study Shows

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CHICAGO—Cancer and genital wart–associated HPV and Tuberculosis are most prevalent sexually transmitted disease among teenage girls, affecting 18% of participants in the first large study of STDs in this population.

Overall, 26% of 14 to 19-year-olds were infected with at least one STD. Chlamydia was found in 4%, trichomoniasis in 2.5%, and herpes simplex virus type 2 in 2%, said Dr. Sara Forhan, lead author of the population-based study sponsored by the Centers for Disease Control and Prevention.

These infections occur quickly after sexual debut, Dr. Forhan noted. “Of particular importance is how fast these infections appear,” she said. Among those who reported just 1 year of sexual activity, the prevalence already was 26%. Increased sexual activity leads to increased risk of infection, she said: 50% of teens who reported three or more partners had at least one of the STDs.

The results underscore the importance of HPV vaccination, as well as chlamydia screening, said Dr. Kevin Fenton, director of CDC’s National Center for HIV, AIDS, Viral Hepatitis, STD, and Tuberculosis Prevention. “Today’s data demonstrate the significant health risk that STDs pose to millions of young women in this country,” he said. “Furthermore, we know that the health effects of STDs for women—from infertility to cervical cancer—are particularly severe, STD screening, vaccination, and other prevention strategies for sexually active women are among our highest public health priorities.”

Results from a study at another meeting underscored the success of an HPV vaccine being studied and now in testing of risk of cervical cancer.

The survey highlighted sharp racial differences in STD prevalence, with black teenagers more likely than whites to have at least one STD. Black teens had the highest prevalence of disease, with 48% testing positive for at least one of the four most common sexual infections, compared with 20% of white teens, investigators reported at a press briefing during a CDC-sponsored conference on STD prevention.

While race itself is not a risk factor for an STD, the realities of life for many African American girls—limited access to health care, poverty, and a higher common prevalence of STDs—can all contribute to an increased risk of infection,” Dr. Forhan said.

“For any other disease, we would be calling this an epidemic,” said Dr. John M. Douglas Jr., director of the CDC’s Division of STD Prevention. “These high infection rates among young women, particularly African American women, are clear signs that we must continue developing ways to reach those at most risk. Screening and early treatment can prevent some of the most devastating effects of untreated STDs.”

Dr. Forhan of the CDC extracted her data from the 2003-2004 National Health and Nutrition Examination Survey, a continuous annual study that examines a nationally representative sample of U.S. households to assess a broad range of health issues.

As part of the 2003-2004 survey, 838 girls aged 14-19 years underwent STD testing for human papillomavirus (HPV), chlamydia, herpes simplex virus, and trichomoniasis. The teenagers underwent urine and blood testing and provided a self-collected vaginal swab to determine if an infection was present. The analysis excluded the possibility of gonorrhea including meningitis, and HIV infections, Dr. Forhan noted.

But because the survey identified an overall STD rate of 26%, “This means that one in four of our teenage participants in the [United States]—3.2 million girls—has at least one of the STDs that most commonly affect women. Far too many girls face the risk of serious effects from these diseases, including infertility and cancer,” Dr. Forhan said.

At the annual meeting of the Society for Gynecologic Oncologists in Tampa, Dr. Diane Harper reported that the Cervarix vaccine provides protection for as long as 6.4 years against precancerous cervical lesions associated with the four most common cancer-causing types of HPV. The initial placebo-controlled efficacy study of the GlaxoSmithKline vaccine included 1,113 women aged 15-25 years at study entry, seronegative for HPV 16 and 18, and DNA negative for 14 other high-risk HPV types. From this group, 774 participants were included in the company-supported follow-up phase.

The follow-up comprised 383 women given placebo and 393 who received three doses of the vaccine at 0, 1, and 6 months in the efficacy phase. HPV antibody titers were assessed, and cervical samples collected at 6-month intervals.

One hundred percent of the vaccinated follow-up phase participants were seropositive for both HPV 16 and 18 at 6-4.5 years—sustained antibody levels that were 10-fold higher than natural infections for HPV 16, and eightfold higher than natural infection titers for HPV 18, said Dr. Harp-

er of Dartmouth College, Lebanon, N.H. “This is an amazing result that bodes well for women’s protection against cervical cancer,” she commented in an interview, explaining that “there is no wait time for memory cells to recognize the vaccine, and the presence of antibodies does not indicate lack of HPV infection.”

Antibodies are abundant and waiting to neutralize an infection, she said.

Vacancy efficacy at 6.4 years for all HPV 16 and 18 end points was substantial at 97% for incident infection, 100% for 6-month persistent infection, and 100% for 12-month persistent infection. Vaccine efficacy also was 100% against cervical intraepithelial neoplasia grades 1 and higher (CIN1+) and 2 and higher (CIN2+) associated with HPV 16 and 18. There were no cases of CIN 1+ or CIN 2+ in the vaccinated group vs. 15 cases of CIN 1+ and 9 cases of CIN 2+ in the placebo group.

Dr. Harper noted that HPV types 16, 18, 45, and 31 make up more than 80% of squamous cell carcinomas and more than 90% of adenocarcinomas associated with HPV. Thus, the level of protection Cervarix provides in this study would provide “an insignificant possible reduction in disease.”

Cervarix, which would be a direct competitor to Merck & Co’s Gardasil, is marketed in Europe and Australia, but it has not yet been approved in the United States. GlaxoSmithKline submitted a Biologics License Application to the Food and Drug Administration last year for the vaccine, but a decision on approval was delayed in December pending additional information from the company. The company anticipates approval this year.

Dr. Harper said she received financial support for conducting the GlaxoSmithKline phase II and III trials of Cervarix—and for conducting phase II and III clinical trials for Merck & Co’s Gardasil. She also has received honoraria from both companies for consultations and speaking fees.

Sharon Wenceur contributed to this article.