ID CONSULT

Factors Affecting HPV Immunization

Could it be that our own cultural affiliations and beliefs might affect our patients' willingness to accept the human papillomavirus vaccine? A fascinating new study suggests just that.

BY CHRISTOPHER J. HARRISON, M.D.

To me, HPV vaccine should be a no-brainer. It protects against 60%-70% of cervical cancers, and is as safe as any other available vaccine. Yet, only about 40% of young females recommended to receive the vaccine have done so thus far. Why?

It may be in part because it is one of the most expensive vaccines in our repertoire, but it's covered by the Vaccines for Children program and now by most third-party payers. And it's not just a matter of 11- to 12-year-olds not getting vaccinated overall. In my area, only about two-thirds of adolescents who get the tetanus-diphtheria-acellular pertussis booster are concurrently receiving the HPV vaccine. It seems that they are refusing it specifically.

The HPV vaccine has been the object of misinformation and is controversial. Some people argue that it is unsafe or that it encourages young females to be more sexually active.

But a recent study actually suggests that girls getting HPV vaccine may be more cautious about sexual activity (Br. J. Cancer 2009;101:1502-4), yet the incorrect beliefs persist.

We hope that families will accept our advice on matters when they have concerns, but another new study sheds light on why families might not.

Yale University law professor Dan M. Kahan and his associates randomly surveyed 1,538 U.S. adults from a database of 40,000 scholarly public opinion poll respondents regarding their views on the HPV vaccine.

Individuals with cultural values favoring "authority" and/or "individualism" perceived the vaccine as risky, in part because they believed it would lead girls to engage in unsafe sex. But those favoring gender equality and/or community/government involvement in basic health care were more likely to see the vaccine as low risk and high benefit (Law Hum. Behav. 2010 Jan. 14 [doi:10.1007/s10979-009-9201-0]).

We all have suspected this to be the case, but now there are data to support that suspicion. Now here's the really interesting part: The researchers designed fictional "experts" who appeared to either share or oppose the respondents' cultural values. When views about HPV vaccines came from experts who respondents believed shared their values, they were more willing to accept the information. But when the views came from experts whom they perceived held values different from theirs, the subjects did not accept the experts' information.

So, when proauthority/individualism experts asserted the vaccine was risky, proauthority/individualism respondents agreed with them. When the egalitarian/procommunity experts argued that it was safe, egalitarian/procommunity respondents also agreed with them, solidifying overall disagreement about use of the vaccine.

However, when proauthority/individualism experts asserted that the vaccine was safe, proauthority/individualism respondents (who originally thought the vaccine was risky) moderated their original viewpoints, because the information came from experts who they perceived shared their values.

This held true for the opposite scenario, too: If egalitarian/procommunity experts argued the vaccine was risky, egalitarian/procommunity respondents shifted their belief toward its being risky.

As clinicians, we'd like to believe that our patients respect and trust us. But it's possible that when it comes to controversial recommendations, they may resist what we say if they don't identify enough with us based on our apparent values. If it is clear that our patient's family holds values widely disparate from ours, it might be helpful to utilize another more culturally congruent health professional in our practice to counsel about vaccination. This would vary by practice and from case to case, but could include people of similar race, religion, political viewpoint, or even regional accent.

Studies suggest that patients sometimes choose physicians to match their values. But with Medicaid and managed care, that may not always be possible. Using this type of approach may have more impact.

Surveys and discussion groups by the CDC suggest that scare tactics and scientific data may not successfully modify the opinion of parents who are disinclined toward vaccination (and I think most of us have the same experience). However, I did want to briefly mention recent data regarding HPV transmission in young adults that took me by surprise and may be persuasive for some patients.

Dr. Ann N. Burchell and her associates at McGill University, Montreal, evaluated female college/university students (aged 18-24 years) in self-described "stable" relationships exclusively with one male partner. The 263 couples had engaged in vaginal sex for a median of 3.9 months. HPV was detected in 64% of the couples. In 41% of the couples, both partners had the same HPV type. This risk of having the same strain was nearly four times more than what would be found by testing two random individuals. Also, oncogenic HPV-16 was the most common type, detected in 22% of couples (Epidemiology 2010;21:31-7).

In other words, one partner frequently came into the relationship with HPV and quickly transmitted it to the other. I was startled by the transmission frequency in these young adult females, who considered themselves in stable relationships. It suggests that acquisition is not just in early adolescence (although the risk of persistence is higher in that age group) and that catch-up immunization may be more important than some have thought. Perhaps these data won't convince all of your patients to get the HPV vaccine, but it may be helpful in some who are in their late teens or precollege age. ■

DR. HARRISON is a professor of pediatrics and pediatric infectious diseases at Children's Mercy Hospitals and Clinics, Kansas City, Mo. Dr. Harrison disclosed he has received funding from GlaxoSmithKline for vaccine trials for MMR for 2009-2010 and MMR-V for 2009, but not for HPV. He participated in some of the original HPV vaccine trials for Merck from 1999-2000, and he was on Merck's speakers' bureau until end of December 2008. To comment, e-mail Dr. Harrison at pdnews@elsevier.com.

Most Antibacterial Drugs Not Associated With Birth Defects

BY MARY ANN MOON

Most commonly used antibacterial drugs were not associated with birth defects in a large surveillance study.

The study was performed because even though some antibiotics have been used relatively safely during pregnancy for decades, until now "there have been no large-scale studies addressing safety or risk [of birth defects] for many classes of antibacterial drugs," said Krista S. Crider, Ph.D., and her associates in the National Birth Defects Prevention Study.

Their findings lend "support to the established safety profiles for certain classes of antibacterial [drugs] such as penicillins, erythromycins, and cephalosporins." In addition, the investigators found it "encouraging" that the use of antibacterial drugs suspected of being teratogenic—such as aminoglycosides, chloramphenicol, and tetracyclines—was "extremely low to none at all" among women just before conception and in early pregnancy (Arch. Ped. Adolesc. Med. 2009;163:978-85).

However, the use of other classes of antibacterial drugs, notably sulfonamides and nitrofurantoins, appeared to be associated with a higher risk for several birth defects, "indicating a need for additional scrutiny," said Dr. Crider of the Centers for Disease Control and Prevention and her colleagues.

The researchers assessed prenatal exposure to antimicrobial drugs in 13,155 mothers of infants with birth defects (cases) born in 1997-2003 and 4,941 mothers of infants without major birth defects (controls) born in the same geographical locations during the same interval.

The case infants had at least 1 of more than 30 categories of major birth defects identified by surveillance systems in 10 states across the country. The cases included live births, stillbirths, and induced abortions.

This self-report was obtained through telephone interviews 6 weeks to 2 years following delivery. Such a lag time means that some women may not have fully or accurately recalled all their antibacterial drug exposures, or the exact timing of each exposure, the investigators noted. Exposure to antibacterial drugs was common among both case (29.4%) and control (29.7%) mothers.

Penicillins were the most frequently used agents. These antibacterial drugs were associated with an increased odds ratio for only one defect (intercalary limb deficiency). That association was not strong, because there were only 24 total cases of this defect.

Erythromycins were the next most frequently used antibacterial drugs. "Only anencephaly and transverse limb deficiency were associated with erythromycin exposure," they noted. Similarly, cephalosporins showed only one significantly increased odds ratio, and that was for atrial septal defects.

Quinolones were used infrequently, as they are not recommended during pregnancy. They were associated with the conotruncal defect tetralogy of Fallot.

Nitrofurantoins were associated with anophthalmia or microphthalmos, hypoplastic left heart syndrome, atrial septal defects, and cleft lip with cleft palate.

Tetracyclines were associated with a variety of heart defects plus left ventricular outflow obstruction defects, septal heart defects, and oral clefts.

Exposure to sulfonamides was associated with the most defects, including anencephaly, hypoplastic left heart syndrome, coarctation of the aorta, choanal atresia, transverse limb deficiency, and diaphragmatic hernia. Moreover, associations between sulfonamides and tetralogy of Fallot, small intestinal atresia or stenosis, and craniosynostosis fell just short of statistical significance. ■

Disclosures: *None was reported.*