New research finds just one dose of HPV vaccine may be sufficient

By ACSH Staff — June 10, 2015

New research [1] found that a single dose of the bivalent human papillomavirus (HPV) vaccine (Cervarix) may offer a similar level of protection against the serotypes of HPV types 16 and 18, which cause 70 percent of cervical cancers as the current two and three dose schedules. The findings come from a new analysis of two large phase 3 trials published in The Lancet Oncology. HPV strains 16 and 18 are targeted by both HPV vaccines: GlaxoSmithKline’s Cervarix, which was used in the study, and Merck’s quadrivalent vaccine, Gardasil.

The researchers, led by Dr. Aimée Kreimer, from the US National Cancer Institute, combined data from two independent trials. First was the National Cancer Institute’s Costa Rica HPV Vaccine Trial, which included almost 7,500 healthy women between the ages of 18 and 25 years. The second trial was the PATRICIA trial, which involved over 18,600 healthy women aged 15-25 years. In both trials, women were randomly assigned to receive the HPV-16/18 vaccine or a control (hepatitis A) vaccine. After excluding women with no follow up, the authors calculated HPV vaccine efficacy after four years for those who received all three doses (over 22,000 women), two doses (almost 1200 women), and one dose (over 500 women).

High vaccine efficacy was seen against incident HPV-16/18 infections in all three categories. The vaccine effectiveness was found to be between 77 percent and 86 percent for the women, regardless of if they received one, two, or three doses.

"Our findings question the number of HPV vaccine doses truly needed to protect the majority of women against cervical cancer, and suggest that a one-dose schedule should be further evaluated," said Dr. Kreimer [2]. "If one dose is sufficient, it could reduce vaccination and administration costs as well as improve uptake," she adds [2]. The benefits of an effective single-dose vaccine schedule are especially important in less developed regions of the world where more than 80 percent of cervical cancer cases occur.

However, the study’s authors caution that more data are needed before policy guidelines could be changed. Presently in the US, it is recommended that three doses of the HPV vaccine are given...
ACS s Dr. Gil Ross added this comment: If confirmed, as it hopefully soon will be, this would be a monumental benefit for public health. One big impediment contributing to keeping the uptake of the revolutionary, cancer-protecting HPV vaccine so low is the official requirement for three shots. This is inconvenient and expensive. If the single-dose vaccine is equally protective, or even nearly so, many more young people will get the vaccine and therefore be protected from cervical cancer, among several other cancers and illnesses known to be causally related to HPV serotypes.

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