# HPV vaccine reduces prevalence of targeted and non-targeted HPV types

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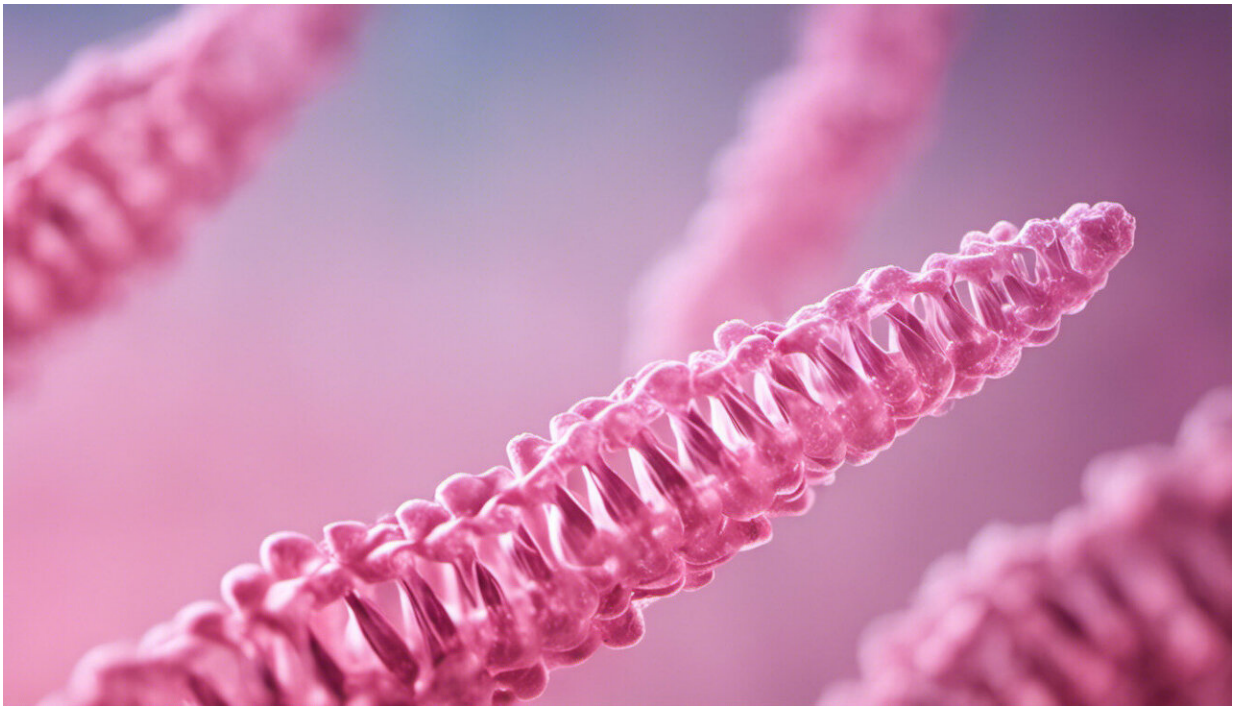

Credit: AI-generated image (disclaimer)

A human papillomavirus (HPV) vaccine used in Australia has reduced the prevalence of vaccine-targeted and non-targeted HPV types, researchers have found.

The vaccine was designed to protect against four types of HPV,

including two types that commonly cause genital warts and two that cause the majority of cervical cancers.

Researchers compared the incidence of HPV in women before and after the vaccine was introduced, finding a 29 per cent incidence prior to introducing the vaccine, which dropped to seven per cent in the post-implementation sample.

To form the pre-vaccine-implementation sample, the study recruited 202 women aged 18–24 who attended pap screening between October 2005 and July 2007 in three major Australian cities. For the post-vaccine-implementation sample, 1,058 women from the same areas were recruited between August 2010 and November 2012.

Medical Director at Sexual and Reproductive Health WA Maria Garefalakis says not only is the vaccine protecting women against targeted HPV types, it's also lowering the incidence of HPV types not targeted by the vaccine, although the protection offered isn't as strong.

"There are similarities between [the types], so there might be something about making that immune response able to protect against very similar types," she says.

"There seems to be better protection for [women] who have had all [three] doses, but that is probably something that bears more investigation. Whether it's okay to just have the two does versus having the three, that's something we can't really speak to," she says.

Dr Garefalakis says the study suggests the vaccine is causing a herd immunity effect.

"People who haven't been vaccinated have some protection because there's less of the virus around ," she says.

Researchers also took note of patients' sexual history and were able to conclude the decrease in HPV prevalence was due a true biological response rather than people having fewer partners or using more protection.

"It's very likely we're going to see a reduction the kinds of conditions you can get from these viruses. We won't know that for years because it takes years for the infection to then become cancer in those people who are exposed."

The vaccine has been offered to 12 and 13 year old girls since 2007.

"Really fortunately, we've started to offer it to 12 and 13 year old boys since last year," says Dr Garefalakis.

"We're quite lucky because we're the first country in the world to offer it to young people."

**More information:** Sepehr N Tabrizi, Julia M L Brotherton, John M Kaldor, S Rachel Skinner, Bette Liu, Deborah Bateson, Kathleen McNamee, Maria Garefalakis, Samuel Phillips, Eleanor Cummins, Michael Malloy, Suzanne M Garland, "Assessment of herd immunity and cross-protection after a human papillomavirus vaccination programme in Australia: a repeat cross-sectional study," *The Lancet Infectious Diseases*, Available online 5 August 2014, ISSN 1473-3099, dx.doi.org/10.1016/S1473-3099(14)70841-2.

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prevalence-non-targeted.html