Editorial

9vHPV (Nonavalent) Vaccine Policy in Indonesia

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The Human papillomavirus (HPV) vaccine is the most common sexually transmitted infection worldwide. In Indonesia, cervical cancer is the second most common cancer in women, and HPV infection is the main cause.

The distribution of HPV vaccine serotypes in Indonesia according to a study by Utomo et al. showed that out of 11,224 women, the most prevalent infections were types 52, 16, 18, and 58. The nonavalent HPV vaccine consists of virus-like particles that trigger an immune response against five additional high-risk HPV types (31, 33, 45, 52, and 58), in addition to the four types (6, 11, 16, and 18) protected by the quadrivalent vaccine. The vaccine works by triggering the production of antibodies that can fight against the targeted HPV virus, thus preventing HPV-related infections and diseases.

The nonavalent HPV vaccine has the potential to accelerate the elimination of cervical cancer. The 90-70-90 strategy is a global target set by the World Health Organization (WHO) to achieve the elimination of cervical cancer by 2030. This target includes three main indicators: 90% of all women must be vaccinated against HPV, 70% of women infected with HPV must be treated, and 90% of women diagnosed with cervical cancer must receive appropriate treatment. Implementation of the 90-70-90 strategy is expected to accelerate the global elimination of cervical cancer and provide significant health benefits for women worldwide.

In line with this WHO strategy, by providing protection against five additional high-risk HPV types, the nonavalent HPV vaccine can protect both men and women against genital warts and cancer caused by 9 HPV types, which account for nearly 90% of cervical cancer cases worldwide. Additionally, this vaccine can reduce the incidence of other HPV-related cancers such as vulvar, vaginal, and anal cancer.

A study involving 14,215 women aged 16-26 years that compared the quadrivalent HPV vaccine with the nonavalent HPV vaccine showed that the nonavalent vaccine provided 94.4% efficacy against the occurrence of CIN2 (95% CI: 78.8, 99.0) and 100% efficacy (95% CI: 46.3, 100) against the occurrence of CIN 3, compared to the quadrivalent HPV vaccine.

HPV Immunization Program

Australia is one of the countries that has implemented a national HPV vaccination program since 2007. Initially, this program was only intended for women, but since 2013, the program has been expanded to include men. This decision was made after research showed that HPV vaccination in men can reduce the risk of HPV transmission and prevent some types of cancer, such as anal and penile cancer.

One comparative study in women aged 18-24 years who came to the clinic for Pap testing reported that the prevalence of 4vHPV decreased from 28.7% before the vaccination program from 2005 to 2007 to 2.3% in vaccinated women ($p < 0.0001$) from 2010 to 2012. In 2018, Australia switched from using the quadrivalent vaccine to the nonavalent vaccine as part of their national vaccination program. This decision was made after research showed that the nonavalent vaccine provides protection against more extensive HPV serotypes.

Next Question, What About the HPV Immunization Program in Indonesia?

In Indonesia, the government has launched a national HPV immunization program in 2023, with the main target being girls in the 5th and 6th grades of elementary school, using a two-dose quadrivalent HPV vaccine and carried out during the School Children Immunization Month (BIAS).

Since the introduction of the nonavalent HPV vaccine, the trend has been for many countries to switch from the quadrivalent to the nonavalent HPV vaccine. This could also happen in Indonesia. It is possible that in the future, the government will switch to the nonavalent HPV vaccine and even consider expanding the target cohort to include not only girls, but also boys of the same age (5th and 6th grades of elementary school).

While a high adolescent vaccine coverage rate should be the main focus, another important question is whether older women and men - potentially up to the age of 45 or 50 - will be part of the HPV immunization program carried out by the government? (for example, female workers, and high-risk populations such as HIV populations?).

How About the Synergy Between the HPV Vaccine and Screening?

Regarding the national HPV immunization program, if we have high national vaccine coverage, in the future in Indonesia, a woman who has received the HPV vaccine may not need to be screened as frequently. However, the challenge is how to accurately identify those who have received vaccination (when they were in the 5th and 6th grades of elementary school), because the need for screening will only generally arise a few years later.

The role of screening in women who have been vaccinated against HPV needs to be further examined. Considering the excellent protection of the HPV vaccine, screening may be reduced to only three tests throughout their lifetime (for example, at the ages of 30, 40, and 60), but this must be verified in larger studies using HPV DNA tests.

Screening carried out in Indonesia can be done simultaneously with HPV vaccination. However, screening should not be a requirement to be able to receive HPV vaccination. Therefore, both vaccine coverage and screening coverage will increase equally.

HPV Vaccination in Men

Men are considered to be a 'reservoir' for HPV and can spread it to their partners. In addition, some HPV-related cancers, especially head and neck cancers, are increasing in men, and these are cancers caused by HPV. Currently, there is no HPV screening available for men. The role of an obstetrician and gynecologist is not only to provide services related to women's health but also to educate patients' husbands (even their sons) about HPV vaccination in men and the importance of HPV vaccination in men.

In conclusion, the nonavalent HPV vaccine is a potential solution to prevent the spread of HPV types, accelerate the elimination of cervical cancer, and reduce the incidence of other HPV-related cancers. Australia's success in implementing a national nonavalent HPV vaccination program is an example of how this vaccine can be used to protect the population from HPV-related diseases.

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