

HPV Vaccination of Girl Child in India: Intervention for Primary Prevention of Cervical Cancer

Shubham Roy¹, Abhishek Shankar^{2*}

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Abstract

Over the past 40 years mortality from carcinoma of the cervix has fallen due to improved treatment and the introduction of national screening programs. Awareness and health-seeking practices have been shown to be poor in many developing countries, necessitating the need for proper awareness and vaccination program. The HPV vaccination is of public health importance. The Indian Academy of Pediatrics Committee on Immunization (IAPCOI) recommends offering HPV vaccine to all females who can afford the vaccine. Vaccination can be given to females as young as 9 years as well as in those aged 13–26 years who have not previously completed vaccination. The primary obstacle to HPV vaccination is financial. There are bivalent, Quadrivalent and Nonavalent HPV vaccines available based on protection against number of HPV subtypes. HPV vaccination and regular cervical screening is the most effective way to prevent cervical cancer. Parents/caregivers of child must be educated regarding HPV vaccination before offering this chemoprophylaxis against cervical cancer. Gaps and barriers to the access and delivery of HPV vaccination need to be identified, so that scientific and public health communities and civil society can be mobilised to adopt the vaccination policy.

Keywords: HPV vaccination- girl child- cervical cancer - India

Globally 27% of total cervical cancer cases are from India which is home to 16-17% of world's women population (Shankar et al., 2017A). The current estimates indicate approximately 1, 00,000 new cases diagnosed and 60,000 deaths annually in India, accounting to nearly 1/3rd of the global cervical cancer deaths. Over the past 40 years mortality from carcinoma of the cervix has fallen due to improved treatment and the introduction of national screening programs (Shankar et al., 2017B).

Awareness and health-seeking practices have been shown to be poor in many developing countries, necessitating the need for proper awareness and vaccination program (Shankar et al., 2018). At any given time, about 6.6% of women in the general population are estimated to harbour cervical HPV infection. HPV serotypes 16 and 18 account for nearly 76.7% of cervical cancer in India.

HPV transmission is influenced by sexual activity and age. Almost 75% of all sexually active adults are likely to be infected with at least one HPV type. However, vast majority of the infections resolve spontaneously and only a minority (<1%) of the HPV infections progress to cancer. Adherence to routine screening by the susceptible female population through periodic Pap smears even in developed

countries has been unsatisfactory, whereas in developing countries like India, large-scale routine screening is difficult to achieve (Myers et al., 2000)

The HPV vaccination is of public health importance. Compliance with cervical Pap smear screening is low in India. The currently available vaccines are safe and efficacious. HPV vaccination is now well accepted in many of the countries and has been included in immunization program. The Indian Academy of Pediatrics Committee on Immunization (IAPCOI) recommends offering HPV vaccine to all females who can afford the vaccine. Because protection is seen only when the vaccine is given before infection with HPV, the vaccine should be given prior to sexual debut. The vaccine should preferably be introduced to parents as a cervical cancer-preventing vaccine and not as a vaccine against a sexually transmitted infection. Vaccines are not 100% protective against cervical cancer and not a replacement for periodic screening. Hence, screening programs should continue as per recommendations. Both vaccines available are equally efficacious and safe for protection against cervical cancer and precancerous lesions as of currently available data (Singhal, 2008)

Vaccination can be given to females as young as 9 years as well as in those aged 13–26 years who have

¹Pink Chain Campaign, ²Department of Preventive Oncology, Dr BR Ambedkar Institute Rotary Cancer Hospital, All India Institute of Medical Sciences, Delhi, India. *For Correspondence: doc.abhishankar@gmail.com

not previously completed vaccination. Pap testing and screening for HPV DNA or HPV antibody before vaccination is not needed. The primary obstacle to HPV vaccination is financial (Markowitz et al., 2007). Because of the high cost of the present vaccines, the affordability and accessibility of these vaccines is a major concern for a mass vaccination program in developing countries like India. Being very expensive (including 10% as taxes), some suspect that HPV vaccination is solely for profit of the vaccine makers/marketers. Had there been a cancer-cervix prevention program and the Government purchased vaccine in bulk, or if Indian manufactures are encouraged to manufacture vaccine, the cost will drop substantially. The documented attrition rate of antibody indicates that the protection will last decades. It is unscientific to wait until after longevity is documented before vaccine is used (Saslow et al., 2007). There are bivalent, Quadrivalent and Nonavalent HPV vaccines available based on protection against number of HPV subtypes.

The two HPV vaccines are commercially available in India and approved by the Drug Controller General of India (DCGI), US Food and Drug Administration, European Medicines Agency and prequalified by the World Health Organization; and were approved for two vaccination projects (Choudhury and John, 2010). There is no risk of getting an HPV infection from the vaccine as the vaccine does not contain live virus. HPV vaccination and regular cervical screening is the most effective way to prevent cervical cancer

There is a need to raise awareness about the HPV infection and substantial percentage of cancers that are caused by this. Integration of cancer education and vaccination into every parents/caregivers into family agenda should be advocated and a strategy for long term follow up of vaccinated girls should be built. Parents/caregivers of child must be educated regarding HPV vaccination before offering this chemoprophylaxis against cervical cancer. Gaps and barriers to the access and delivery of HPV vaccination need to be identified, so that scientific and public health communities and civil society can be mobilised to adopt the vaccination policy

Communication is the best mean to raise awareness on the part of and to influence people. Making parents/caregivers aware about cervical cancer vaccine is essential, as well as the identification of positive, clear and understandable messages that can be identified by media and the public as their own messages. This in turn brought economic benefit as Government expenses are too high on cancer treatment facilities in India.

References

- Choudhury P, John TJ (2010). Human papilloma virus vaccines and current controversy. *Indian Pediatr*, **47**, 724–5.
- Markowitz LE, Dunne EF, Saraiya M, et al (2007). Quadrivalent human papillomavirus vaccine: Recommendations of the Advisory Committee on Immunization Practices (ACIP) [Last Accessed on 2008 Apr 28]. *MMWR Recomm Rep*, **56**, 1–24.
- Myers ER, McCrory DC, Nanda K, Bastian L, Matchar DB (2000). Mathematical model for the natural history of human papillomavirus infection and cervical carcinogenesis. *Am J*

Epidemiol, **151**, 1158–71.

- Saslow D, Castle PE, Cox JT, et al (2007). Gynaecologic Cancer Advisory Group. American Cancer Society guideline for human papillomavirus (HPV) vaccine use to prevent cervical cancer and its precursors. *CA Cancer J Clin*, **57**, 7–28.
- Singhal T (2008). Indian Academy of Pediatrics Committee on Immunisation (IAPCOI) - Consensus Recommendations on Immunization 2008. *Indian Pediatr*, **45**, 635–48.
- Shankar A, Prasad N, Roy S, et al (2017A). Sexual dysfunction in females after cancer treatment: an unresolved Issue. *Asian Pac J Cancer Prev*, **18**, 1177-82.
- Shankar A, Roy S, Rath GK, Chakraborty A, et al (2018). Impact of cancer awareness drive on generating awareness of and improving screening for cervical cancer: A study among school teachers in India. *J Glob Oncol*, **4**, 1-7.
- Shankar A, Roy S, Rath GK, et al (2017B). Carcinoma uterine cervix: Evolving trends and Impact of national cancer control Program in India. *Ind J Soc Prev Rehab Onc*, **1**, 16-22.



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