

Guest Editorial

Cervical Cancer Prevention in Pakistan: The Promise of the HPV Vaccine and the Peril of Misinformation

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Introduction

Cervical cancer is one of the few cancers we can truly prevent. Caused mainly by persistent infection with high-risk human papillomavirus (HPV) types 16 and 18, it is the fourth most common cancer among women globally and the second most common in Pakistan. Tragically, most deaths occur in developing or resource poor countries, where access to prevention and treatment is limited.^{1,2}

Unlike many cancers, cervical cancer has two proven lines of defense: primary prevention through the HPV vaccine and secondary prevention through screening and early treatment of precancerous changes. Recognizing this, the World Health Organization (WHO) has set an ambitious “90-70-90” elimination strategy: vaccinate 90% of girls by age 15, screen 70% of women by 35 and again at 45 and treat 90% of those diagnosed.³

Against this global backdrop, the launch of Pakistan’s HPV vaccination campaign in September 2025 is a landmark moment. Its success, however, will depend not only on logistics but also on whether families trust the vaccine amidst a tide of social media misinformation. The coming years will show whether Pakistan can transform this opportunity into a real step towards eliminating cervical cancer or risk letting it become another under-

utilized public health initiative.

The Evidence Base: Effectiveness and the Single-Dose Strategy

The scientific case for HPV vaccination is rock-solid. Meta-analyses and long-term studies show dramatic reductions in HPV infection, precancerous lesions, and cervical cancer rates where the vaccine has been widely adopted.^{4,5}

One of the most exciting developments is the growing evidence that a single dose of HPV vaccine is enough. Trials in Africa and Latin America have shown that a single shot provides strong, durable protection against HPV-16 and 18 nearly equivalent to multi-dose regimens.^{6,7} Year 2022, WHO endorsed this simplified approach, making it especially relevant for countries like Pakistan where financial and logistical hurdles often limit vaccination coverage.⁸

In short: the vaccine works, it’s safe, and the one-dose schedule makes it easier than ever to protect millions of girls.

HPV Vaccine Rollout in Pakistan

Pakistan’s phased national campaign began in September 2025, targeting girls aged 9–14 years around 13 million in total with plans to include the vaccine in routine immunization for nine-year-olds in the future.⁹ Backed by partners such as WHO, UNICEF, and Gavi, the campaign combines school-based delivery with health facilities and outreach programs to reach out-of-school girls.

A workforce of more than 49,000 trained vaccinators,



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many of them women, are at the forefront of this effort, an essential step in ensuring both cultural sensitivity and community trust.¹⁰

The Challenge of Misinformation

Despite these strengths, the campaign faces a familiar enemy: misinformation. False claims that the vaccine causes infertility, encourages promiscuity, or is “un-Islamic” are spreading widely on social media. Misused videos of unrelated adverse events have fueled parental fear and hesitancy.^{11,12}

Pakistan has been here before. Polio eradication efforts were repeatedly stalled by similar mistrust, even in the face of overwhelming scientific evidence. Unless tackled early, misinformation could undermine HPV vaccine uptake, no matter how well designed the program is.

Recommendations

To protect this historic initiative, several actions are critical:

1. **Evidence-based communication** – Trusted figures like doctors, teachers, community leaders, and religious scholars must lead conversations. Families need clear explanations about vaccine safety, the meaning of a single-dose schedule, and why myths around infertility or morality are unfounded.
2. **Rapid response to misinformation** – Health authorities should actively track viral rumors online and counter them quickly with accurate, accessible information in local languages. Collaborating with journalists and digital influencers can help amplify truth over fear.
3. **Reaching out-of-school girls** – Schools are an efficient platform, but millions of girls in Pakistan remain out of school. Door-to-door outreach, mobile clinics in remote and flood-affected regions, and NGO partnerships will be essential to ensure equitable protection.
4. **Integration with screening** – Vaccination protects the next generation, but today’s women still face high risk. Affordable screening (like visual inspection with acetic acid or HPV DNA testing) and robust treatment pathways must be expanded in parallel.
5. **Surveillance and monitoring** – Transparent systems to track vaccine coverage, safety, and health outcomes are vital to sustain public confidence and measure long-term impact.

Ethical and Equity Considerations

Equity must remain central. Rural, displaced, and socio-economically disadvantaged girls should be prioritized, with careful attention to consent, privacy, and dignity. This is not just about cancer prevention, it is about ensuring every girl, regardless of background, has the chance to live a healthy, cancer-free life.

Conclusion

Pakistan’s HPV vaccine introduction is more than a medical intervention. It is a promise of a healthier future for girls and women. The evidence is clear: the vaccine is safe, effective, and now easier to deliver than ever before. But science alone is not enough.

Success will depend on trust built through open communication, rapid rebuttal of misinformation, inclusive outreach, and continued investment in screening and treatment. If these challenges are met head-on, this program could become a cornerstone of women’s health in Pakistan for generations to come.

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