

VISHNU IAS ACADEMY

V-GYAN DAILY NEWSPAPER MAINS QUESTION

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(THE HINDU – DELHI EDITION)

- Q. Discuss the challenges and opportunities in the development and adoption of indigenous vaccines in India, with a focus on the HPV vaccine, in light of global patent regimes and public health considerations. Analyse the role of government initiatives in promoting vaccination coverage. 15 Marks

Answer Template:

Introduction:

- Indigenous vaccine development in India plays a critical role in addressing public health challenges, particularly in combating diseases prevalent in the region.
- The Human Papilloma Virus (HPV) vaccine is aimed at preventing cervical cancer.
- According to the WHO, cervical cancer is a significant global health issue, with approximately 570,000 new cases and 311,000 deaths reported in 2018. In India, cervical cancer is a leading cause of cancer-related mortality among women, despite declining trends in incidence, as reported by Population Based Cancer Registries (PBCRs) and International Agency for Research on Cancer (IARC).

Body:

- **Challenges:**
 - Patent Regimes and Regulatory Challenges:
 - India's transition from a process patent regime to product patents post-TRIPS (Trade Related Aspects of Intellectual Property Rights) has impacted indigenous vaccine development timelines.
 - *Example: Serum Institute of India's 'Cervavac' faced delays due to global patent monopolies.*
 - Cost and Affordability Issues:
 - High costs associated with patented vaccines pose challenges for widespread adoption in India's healthcare system.
 - *Example: Despite funding, Cervavac remains relatively expensive for low-income populations.*
 - Competition and Market Dynamics:
 - Limited competition post-patent expiry affects pricing dynamics and availability.
 - *Example: Domestic vaccines by Bharat Biotech and Zydus Cadila under development but not commercialized.*
 - Infrastructure and Technological bottlenecks:
 - Lack of infra and tech necessitates investment in vaccine manufacturing infrastructure and technological capabilities, crucial for scaling up production.

- *Example: Success in producing rDNA vaccines like Hepatitis-B shows potential for HPV vaccine production.*
 - Ethical Considerations and Social Acceptance:
 - Addressing ethical concerns and societal acceptance of HPV vaccination is critical.
 - *Example: Cultural perceptions influence vaccine uptake, necessitating tailored communication strategies.*
- **Opportunities:**
 - Government Initiatives and Public Health Integration:
 - The **Universal Immunization Program** (UIP) aims to integrate HPV vaccination into routine immunization schedules for young girls.
 - *Example: Government campaigns promote HPV vaccination in schools and healthcare centres.*
 - Research and Development Funding:
 - Adequate funding and partnerships for R&D are essential for indigenous vaccine innovation and clinical trials.
 - *Example: Collaboration with global health organizations enhances research capabilities.*
 - Regulatory Framework and Quality Assurance:
 - Strengthening regulatory frameworks ensures safety and efficacy standards in vaccine production.
 - *Example: WHO prequalification and stringent clinical trials validate the quality of indigenous vaccines like Cervavac.*
 - Economic Impact and Cost-Benefit Analysis:
 - Conducting cost-benefit analyses helps evaluate the economic impact of HPV vaccination on healthcare costs and productivity.
 - *Example: Studies indicating reduced healthcare expenditures due to lower cervical cancer treatment costs with increased vaccination coverage.*
 - Capacity Building and Skill Development:
 - Training healthcare professionals enhances vaccine delivery and monitoring capabilities across diverse settings.
 - *Example: Capacity building initiatives by government and NGOs in rural and urban healthcare facilities.*
- **Role of government initiatives**
 - Policy Formulation and Implementation:
 - Governments formulate national immunization policies based on disease burden, epidemiological data, and global health recommendations.
 - Clear policies provide guidance for healthcare providers, streamline vaccination schedules, and ensure uniformity in vaccine administration.
 - Funding and Financial Support:
 - Governments allocate funds for vaccine procurement, distribution, and vaccination programs.
 - Financial support makes vaccines affordable or free for eligible populations, thereby increasing accessibility and coverage rates.

- Vaccine Procurement and Supply Chain Management:
 - Governments negotiate with vaccine manufacturers to procure vaccines at competitive prices.
 - Efficient supply chain management ensures timely delivery of vaccines to healthcare facilities, minimizing stockouts and ensuring continuity of immunization services.
- Public Awareness and Education Campaigns:
 - Governments conduct campaigns to raise awareness about vaccine-preventable diseases, vaccine safety, and the benefits of immunization.
 - Increased awareness leads to higher acceptance of vaccines among parents and caregivers, reducing vaccine hesitancy and improving coverage rates.
- Integration into Healthcare Delivery Systems:
 - Governments integrate vaccination services into routine healthcare delivery, including maternal and child health services.
 - Integration ensures that vaccines are administered during regular healthcare visits, maximizing opportunities for vaccination and reaching underserved populations.

Conclusion

- While challenges exist in navigating global patent regimes and ensuring affordability of indigenous vaccines like Cervavac, India has demonstrated significant progress in vaccine development and public health integration.
- Moving forward, a comprehensive approach involving regulatory reforms, increased investment in R&D, enhanced infrastructure, and community engagement is crucial.
- By leveraging technological advancements and fostering global partnerships, India can further strengthen its position as a leader in vaccine innovation and improve healthcare outcomes for its population.

Related News/ Editorial/ Article (THE HINDU):

- *Indigenous HPV vaccine, the rhetoric and the reality. - (Page 6)*