

Adult Immunization: A Neglected Domain

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“Long Life for All” being the theme for this year's **World Immunization Week 2022**, celebrated annually in the last week of April (24th to 30th April) aims to unite people on the idea that vaccines make it possible for people to pursue their dreams, protect loved ones and live a long and healthy life. It aims to highlight the collective action needed and to promote the use of vaccines to protect people of all ages against disease.^[1]

Immunization is one of the world's most successful and cost-effective health interventions available to avert vaccine preventable diseases and deaths. Since at least the 1400s, people have looked for ways to protect themselves against infectious disease. From the practice of “variolation” in the 15th century to today's mRNA vaccines, immunization has a long history. For over two centuries, vaccines have helped in keeping people healthy starting from the first vaccine that was developed to provide protection against smallpox to the latest ones that are being used to prevent COVID-19.


With the help of vaccines, humans can progress without facing the burden of diseases such as polio, smallpox, etc. Vaccines are continuously being advanced bringing humanity closer to a world that will be free from cervical cancer, tuberculosis, etc, and also ending suffering from childhood diseases such as measles and tetanus.^[2] Immunization is the process or the act of making the individuals immune which is usually done during childhood. At times immunization is considered synonymous with child immunization. However, very few know about adult

immunization. Regardless of age, we need immunization against a whole gamut of vaccine-preventable diseases to maintain good health and lead a disease-free life.

Childhood vaccines are well established in India under Universal Immunization Program (UIP) but there is no formal immunization program in India like UIP. In a country like India with a population of 1.3 billion, the adult population accounts for about 60% of the total population. Also, the life expectancy has risen from 52.52 years in 1980 to 69.27 years in 2020.^[3] The adult age groups (more than 18 years) along with adolescents present an important additional target for existing immunization programs. We generally assume that the vaccinations we receive as children are enough to safeguard us throughout life. Contrary to this belief, our need for immunization does not stop with childhood.

Adults do require vaccination protocols with booster doses for hepatitis, pneumococcal and other communicable diseases. In the adult population because of the changing lifestyle, demographics and significant increase in life expectancy the concept of adult immunization was thought of.^[4]

The WHO scientific advisory group of experts(SAGE) to the Global programme for vaccines and immunization (GPV) has indicated the need to expand immunization activities beyond infancy, either as part of routine immunization services, or as a part of disease elimination and/or eradication measures.

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Vaccination is needed throughout one's life to protect against various infectious diseases and their complications. Adulthood requires letting go of some of our childhood habits, but vaccines are not one of them. To maintain optimal immunity, many of the immunizations that we received as children, must be repeated for adults. Adulthood comes with a new set of duties, but it also comes with a new set of immunizations.^[5]

Need for Immunization in Adults:

- Many adults have never been administered vaccines during childhood.
- Some of the vaccines available now were not available a few years ago.
- Immunity due to vaccines given in childhood wanes from the adolescent group onwards.
- People doing extensive travel, especially foreign countries, are at higher risk of catching infection.
- Due to advancing age, occupation or comorbid conditions adults are at greater risk for certain vaccine preventable diseases (VPDs).
- VPDs are expensive both in terms of lost earnings as well as cost associated with health care as compared to cost of vaccination which is often much less.
- Most VPDs have not been eliminated, thus adults may be exposed to these illnesses due to contact with carriers.
- Adult immunization also strengthens protection provided by herd immunity.
- Infected adolescent and adult population may act as reservoirs of infection for neonates and others like older grandparents or family members or co-workers.

Vaccines are recommended for all adults starting at 19 years as diseases have no age and even young and healthy people can also get sick. Healthy adults are usually not aware about adult immunization. It is usually thought that vaccines are

for kids, old people or those having poor health. They are usually not aware of vaccine preventable diseases like whooping cough, shingles, Human Papilloma Virus (HPV) etc. that can affect adults. Also, usually there are no recommendations for vaccination from health care professionals, except for influenza or pneumococcal in some cases or at work sites or for travel abroad.

Many adults with health conditions like pregnancy, those with HIV/ weakened immune system or liver disease or those with comorbid conditions like asthma, heart, lung diseases or diabetes are highly vulnerable to vaccine preventable diseases. Pneumococcal, meningococcal, and Haemophilus influenzae (HIB) vaccinations are indicated for patients after splenectomy.^[6] Also transplant patients even if adults need vaccination.^[7]

Vaccines can be even used for treatment of neoplastic diseases, like BCG can be used in early-stage bladder cancer. Sipulence -T can treat prostate cancer and talimogene laherparepvec can treat melanoma.^[8] Some newer vaccines are just for adults and teenagers, such as the Human Papillomavirus Vaccine (HPV vaccine) can prevent cervical cancer in young women and genital warts/ anal cancer in both genders.

Bottlenecks and Barriers to Adult Immunization

In spite of the heavier burden of diseases, vaccines recommended for adults are not widely used. There are several reasons for this.

- There is a limited perception on part of the health care providers and beneficiaries that adult vaccine preventable diseases are significant health problems.
- There are doubts in the minds of some health care providers and the public about the efficacy and safety of several of the vaccines used for adults.
- Adult immunization is selective not universal, different vaccines have different target groups.

- Healthy adults are harder to reach through the public health system and hence vaccination of this age group becomes difficult.
- United Access – There are no Institutions for adults, which can facilitate a broad Immunization requirement.
- Less stress on preventive Care-There is a lack of knowledge and apathy regarding adult VPDs among health care providers.
- Cost of Immunization – Maximum insurance policies in India, do not cover the cost of Immunization, newer vaccines for adults are expensive and may increase the out-of-pocket expenditure.

Adult immunization schedule has been recommended by the Centers for Disease Control and Prevention.^[9] Various Adult Vaccines used are ;

- Flu (Influenza)
- Td/Tdap (Tetanus, Diphtheria, Pertussis)
- Shingles (Zoster)
- Pneumococcal
- Meningococcal
- MMR (Measles, Mumps, Rubella)
- HPV (Human Papillomavirus)
- Chickenpox (Varicella)
- Hepatitis A
- Hepatitis B
- Typhoid
- COVID-19

Need for change in healthcare policies:

Vaccines are critical for preventing mortality and morbidity, since infections account for more than a quarter of all fatalities. To decrease the health implications of vaccine-preventable diseases in adults, significant improvements and increase in adult immunization are required. In India,

incomplete and inadequate immunization against various infectious diseases results in substantial and avoidable hospitalization and treatment costs. Usually, people spend a lot on child health as compared to the health of elderly; also child immunization has been focussed so much by our medical professionals, Indian Government and World Health Organization (WHO). We need to change this attitude and prioritise adult immunization too. Healthcare policy planners and healthcare providers must be made aware of this critical topic. The Ministry of Health and Family Welfare of India must develop policies and procedures focussed on adult immunization. Adult vaccination should be made a standard aspect of immunization since these vaccinations can save millions of lives in India alone.^[4]

Quite a times adult immunization is considered as a LUXURY for the people of high socio-economic status, as the vaccines used are a bit expensive. During the COVID era, our country has set an example by producing the COVID vaccines in our premises. Similarly, we can focus on further production of various vaccines used for adult immunization ,making them cost effective for use and fulfilling the motto of “**Vocal for Local**”.

Also, as our country is transforming its status from a developing nation towards a developed nation, we have been able to control a lot many infectious diseases , so we can focus more on research to develop vaccines for adults for non-communicable diseases which are on an increasing trend among the population.

Conclusion:

Suffering from a vaccine preventable disease is expensive as compared to getting vaccinated against them and staying healthy. Like diet and exercise, vaccines are an important part of staying healthy. They play a vital role in helping the immune system and keeping adults healthy just like eating wholesome foods and exercising regularly. Thus, it is in our best interest as adults to take charge of our

own preventive health care by learning about recommended vaccines, seeking them out and encouraging others also to get immunized. Our responsibility extends further too, being a medical professional in making people aware about these.

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