

Adult Immunization

SANJAY KALRA*, MADHUR VERMA†

ABSTRACT

Vaccination is accepted as an integral part of preventive and community health. However, adult vaccination has not received the same attention as childhood immunization. This communication describes the advantages of adult immunization, and lists high priority populations for the same. It highlights the need to focus on health care workers, sanitation workers and food workers for effective prevention of disease through vaccination.

Keywords: Communicable disease, geriatrics, health care delivery, immunization, vaccination

Immunization has come a long way since 1798, when Edward Jenner developed a vaccine against smallpox.¹ The last century has witnessed multiple advances in the field of vaccines, and immunization is now an integral part of health care. The World Health Organization (WHO) lists vaccines as essential drugs, not only for children and adolescents, but for adults as well.² The aim of these vaccines is to prevent communicable diseases, and the morbidity and mortality that may be associated with these diseases.

Globally, and in India, the concept of immunization has gained traction within child and maternal health. The national health programs of India include mandatory vaccines for children and for antenatal women, as part of primary health care provision.³

ADULT HEALTH

Adult health, on the other hand, presents different challenges and concerns, as well as obstacles and obstructions. There are multiple fronts to grapple with, including noncommunicable diseases, mental health and trauma. These take up a major chunk of health care resources, and leave little for preventive immunization services. At the same time, however, the evolving landscape of health and diseases offers novel

opportunities for the integration and acceptance of vaccination in adults.

Infectious diseases are making a comeback, as exemplified by the recent coronavirus disease 2019 (COVID-19) outbreak.⁴ Epidemics and outbreaks of other infections continue to occur in India at regular intervals.⁵ Infectious diseases are common in high-risk individuals with impaired immunity. The aging society has also created a large cohort of elderly citizens who are more prone to acute infections. As chronic conditions like lung, heart and kidney disease, as well as diabetes and cancer become more prevalent, the burden of acute comorbid conditions will also increase. All these issues must be addressed to ensure a healthy society.

ADULT VACCINATION

It becomes imperative, to prevent such illnesses, in order to minimize their impact on health and on the health care system. Vaccine preventable diseases (VPD) present a “low hanging fruit” that can easily be tackled with the help of appropriate vaccination.

Rational use of vaccines in adult can help boost the immunity gained from childhood immunization and achieve immunity against other diseases as well.⁶ A booster of Td (Tetanus, diphtheria) for children aged 9 to 15 years; one dose of rubella, in previously unvaccinated adolescent girls and women of reproductive age and 2 doses of human papillomavirus (HPV) in adolescent girls are suggested for all immunization programs.² Typhoid, cholera, meningococcal, hepatitis A, rabies and dengue vaccines are suggested for some high-risk populations.² Mumps, seasonal influenza and varicella vaccines are listed by WHO, but their usage is limited to immunization programs with unique characteristics.

*Dept. of Endocrinology, Bharti Hospital, Karnal, Haryana, India; University Center for Research & Development, Chandigarh University, Mohali, Punjab, India

†Dept. of Family and Community Medicine, AIIMS, Bathinda, Punjab, India
Address for correspondence

Dr Sanjay Kalra

Dept. of Endocrinology, Bharti Hospital, Karnal, Haryana, India; University Center for Research & Development, Chandigarh University, Mohali, Punjab, India
E-mail: brideknl@gmail.com

A few specific populations need special mention in the context of adult immunization. One of these is pregnant women and those planning pregnancy.⁷ Women must be protected against all relevant diseases, to ensure a healthy pregnancy outcome. Relevant vaccination should be included in preconception clinics, apart from strengthening antenatal vaccine drives.⁸

Geriatric persons, especially those living in nursing homes or old age homes, should also be prioritized for vaccination.⁹ This age group is at greater risk of contracting infections and of developing severe illness due to these. Patients attending specialty clinics for conditions associated with immune compromise, such as diabetes, cancer, chronic liver disease and chronic kidney disease must be a focus of adult vaccination. Persons on long-term glucocorticoid therapy, for pulmonary, rheumatologic or other disease, should also receive extra attention.

HEALTH CARE WORKERS

Health care professionals and providers are the backbone of our health care system. The nature of their job exposes them to various infections that are spread by droplet, blood or touch. Immunization is an effective means of preventing disease in this high-risk category.¹⁰ The WHO recommends polio, measles and annual influenza vaccine for all health workers. BCG, hepatitis B, diphtheria and meningococcal vaccines are recommended for health workers at risk of these infections. Rubella vaccine is recommended for health workers if it has been introduced into the national program. Varicella and pertussis vaccines are listed as optional interventions, keeping health workers as a priority group.²

It becomes imperative for the health care system to provide optimal care to its workers. Hence, health care workers should be listed as a separate category in adult immunization policies. Such affirmative action has been noted during the COVID-19 pandemic.

SANITATION WORKERS

While do speak of prioritization of health care professionals for preventive and promotive health strategies, we must not neglect an equally important and perhaps more vulnerable group: our sanitation workers.¹¹ The nature of their work exposes them to multiple VPD including typhoid, hepatitis A, hepatitis B and rabies. Their work and lifestyle may also make them potential spreaders of such diseases. It would be prudent, therefore, to focus on this group as well.

Ensuring that these are vaccinated will lead to a cascade effect on community health.

FOOD WORKERS

Workers in the food industry are potential spreaders of foodborne disease, including typhoid and hepatitis A.¹²

Though no national programs have identified food industry workers as a target population for vaccination, a concerted effort by industry leaders should help in ensuring their immunization against foodborne VPD. This will protect not only the individual workers, but their customers as well. In this way, adult vaccination will benefit the industry and the public at large.

SUMMARY

As we celebrate the successes of our childhood and COVID-19 vaccination programs, it is time to focus on adult immunization. A rational and pragmatic approach to adult vaccination, based upon evidence and economics, will ensure optimization of societal health. Identification of high-risk target audiences, and prioritization of diseases to be targeted, will facilitate efficient use of available resources. Involvement of all stake holders—the public, policymakers, politicians, physicians and payers—will ensure adequate acceptance of, and adherence to, vaccination prescriptions. The Indian Journal of Clinical Practice supports adult immunization as a means of achieving Health for All.

REFERENCES

1. Stern AM, Markel H. The history of vaccines and immunization: familiar patterns, new challenges. *Health Aff (Millwood)*. 2005;24(3):611-21.
2. A user's guide to the summary tables. Available at: https://www.who.int/immunization/policy/WHO_EPI_Sum_tables_Def_200713.pdf?ua=1. Last accessed February 13, 2022.
3. Bhadoria AS, Mishra S, Singh M, Kishore S. National Immunization Programme-Mission Indradhanush Programme: newer approaches and interventions. *Indian J Pediatr*. 2019;86(7):633-8.
4. Li J, Huang DQ, Zou B, Yang H, Hui WZ, Rui F, et al. Epidemiology of COVID-19: a systematic review and meta-analysis of clinical characteristics, risk factors, and outcomes. *J Med Virol*. 2021;93(3):1449-58.
5. Swetha G, Anantha Eashwar VM, Gopalakrishnan S. Epidemics and pandemics in India throughout history: a review article. *Indian J Public Health Res Dev*. 2019;10(8):1503-9.
6. Koul PA, Swaminathan S, Rajgopal T, Ramsubramanian V, Joseph B, Shanbhag S, et al. Adult immunization in

- occupational settings: a consensus of Indian experts. *Indian J Occup Environ Med.* 2020;24(1):3-15.
7. Kumar G, Choudhary TS, Srivastava A, Upadhyay RP, Taneja S, Bahl R, et al. Utilisation, equity and determinants of full antenatal care in India: analysis from the National Family Health Survey 4. *BMC Pregnancy and Childbirth.* 2019;19(1):1-9.
 8. Tandon RN, Wankhedkar R, Monga VK. Life Course Immunization Guidebook. A Quick Reference Guide. Indian Medical Association. Available at: http://www.ima-india.org/ima/pdfdata/IMA_LifeCourse_Immunization_Guide_2018_DEC21.pdf. Accessed June 29, 2021.
 9. Ghia CJ, Rambhad GS. Developing adult vaccination ecosystem in India: current perspective and the way forward. *Health Serv Res Manag Epidemiol.* 2021; 8:23333928211030791.
 10. Dash R, Agrawal A, Nagvekar V, Lele J, Di Pasquale A, Kolhapure S, et al. Towards adult vaccination in India: a narrative literature review. *Human Vaccin Immunother.* 2020;16(4):991-1001.
 11. Ghosh L. Bio-Medical waste-related threat to the urban sanitation workers of India. *Biotica Res Today.* 2021;3(6):515-8.
 12. Shenoy B, Andani A, Kolhapure S, Agrawal A, Mazumdar J. Endemicity change of hepatitis A infection necessitates vaccination in food handlers: an Indian perspective. *Hum Vaccin Immunother.* 2022;18(1): 1868820.



Poor Outcomes after Fractures in Older Adults Linked to Underlying Health Issues

A study published in the journal *JAMA Network Open* revealed that having specific combinations of underlying health issues is a significant risk factor leading to poorer health outcomes in older adults who have had a prior fracture.

The study conducted by researchers from the Garvan Institute of Medical Research revealed that with fractures closer to the center of the body, a higher mortality rate was observed among older adults in comparison to the general population of the same age.

The findings of the study showed that certain clusters of conditions were associated with increased mortality rates. If older adults with fractures also had multiple or complex health conditions, the mortality risk was higher again.

In the study, chronic health conditions at the time of fracture were naturally clustered into five specific groups for men and four for women: a relatively healthier group with generally only one or no health conditions, a cardiovascular group, a diabetic group, and a cancer group with an additional liver/inflammatory group for men. The presence of specific clusters of health conditions in people compounds the chance of death following these fractures, much greater than either fractures or health conditions alone.

For instance, the mortality rate following hip fracture amongst men in the cancer cluster was 41% higher than that of similarly aged men in the general community. And diabetes in otherwise healthy people was not associated with increased mortality risk, but diabetes in combination with heart, vascular or kidney disease was.

Hence, the study suggested that there's an interaction between the fracture and a patient's cluster of health conditions, including their underlying health, which could be a good way to identify at-risk people.

(Source: <https://www.tribuneindia.com/news/health/underlying-health-issues-linked-to-poor-outcomes-after-fracture-in-older-adults-study-440276>)

हेमेटिनिक डेक्सॉरेंज with traditional root



बोवापुइ इतय त्रुह to तेइ चलोपुइ

Rx in Anaemia associated with

- * Pregnancy & Lactation
- * Menorrhagia
- * Nutritional & Iron Deficiency
- * Chronic Gastrointestinal Blood Loss
- * General Weakness
- * Chemotherapy-induced anaemia
- * Lack of Appetite
- * Chronic Kidney Disease



**FRANCO-INDIAN
PHARMACEUTICALS PVT. LTD.**
20, Dr. E. Moses Road, Mumbai 400 011.