

## Vaccination: Perfect Gift for Our Babies

ANUPAM SACHDEVA

National President, Indian Academy of Pediatrics, 2017.

anupamace@yahoo.co.in

*“An ounce of prevention is worth a pound of cure”* – Ben Franklin

It's a very old saying that “prevention is better than cure.” It will be always wiser to prevent a disease than to treat it once it occurs.

*“You never know how far reaching something you think, say, or do will affect the lives of millions tomorrow.”* – BJ Palmer, DC

**D**iseases like tetanus, mumps, *Haemophilus influenzae* type b (Hib) infections, rotavirus infections, measles, pertussis (whooping cough), polio, rubella (German measles) and diphtheria, which used to occur very commonly in our country and around the world, can be well prevented by means of vaccination. Small pox – one of the most deadly diseases in human history – is only a story now, and now remains only for teaching purpose to life science students in classes and laboratory, just because of the vaccine.

After the launch of Expanded Programme on Immunization (EPI) in 1974 (by the World Health Assembly), when the immunization rate was just 5%, lives of 2-3 million children have been saved each year [1], and about 750,000 children are saved from disability. All ailments have financial, physical and mental burden on family. Likewise, the diseases that can be prevented by vaccines cause the similar burden in form of early and untimely deaths, suffering of kids and family, frequent visits to healthcare providers and multiple hospitalizations. As these can be prevented by vaccination, the impact of infectious diseases has been reduced greatly.

*“The Doctor of the future will give no medicine but will interest his patients in the care of the human frame, in diet and the cause and prevention of diseases.”* – Thomas Edison

If we look around, we will find that only clean water and education are among those basic human rights, which can give a competition to vaccination. It is very unfortunate that despite the success story of vaccination programs, which resulted in only rare occurrence of

fearsome diseases, large number of vehemently protesting antivaccine lobbies exist.

Various independent experts and agencies like WHO have often shown that the vaccines are far safer than the treating medicines. But the obvious success and effectiveness of vaccines in disease prevention has drawn the attention of public towards its safety. The safety record of vaccines in modern days is extremely good, and most of the “vaccine scares” proved to be a hoax. These hoaxes about the excellently safe vaccines often result in fall in coverage of vaccination, and cause the poor control and re-emergence of diseases. In days of fast internet, easily accessible search engines, and numerous print and electronic media thriving for attention, the unnecessary vaccine safety issues are commonly reported, while reviews of vaccine benefits are being neglected. A Medline search over the past five years using the keywords “vaccine risks” scored approximately five times as many hits (2655 versus 557) as a Medline search using “vaccine benefits” as keywords [2]. This reflects the fact that negative aspects of vaccination get much more publicity than positive aspects.

Any movement that is good for community initially faces the problem, and same happened with vaccination also since the time of the father of immunology – Edward Jenner. But the unfortunate part is this that it is still facing the unnecessary anger of vociferous antivaccine lobby. To defeat these wrong allegations is to refute false claims at the earliest opportunity by providing scientifically valid data. For the promotion of individual and public health, vaccines are one of the most excellent measures, and without any doubt it deserve better press.

### VACCINATION IN GOVERNMENT SET-UP

“Primary Health Care is essential health care made universally accessible to individuals and acceptable to them, through their full participation and at a cost the community and country can afford [3].” One element of primary health care is “immunization against major infectious diseases [3].” The first key principle of primary health care is “equitable distribution” [3]. There should be

no social injustice. Therefore, in vaccination our government sets up targets to ensure maximum coverage against the most prevalent diseases based on epidemiological data, to all the needy and vulnerable group of population, as the resources are limited.

#### VACCINATION IN PRIVATE SET-UP

In private set up, it is the duty of the healthcare professionals to offer protection against all the available vaccine preventable diseases. Now it's a call of the parents for opting or opting out as they are explained in detail for the need of vaccine. Because there is direct contract between the health care provider and parents of children, we have to look at all the possible medicolegal aspects also. As it is not a matter of extra burden on state's limited resources, those who can afford can opt in.

When we look at the history of vaccination in our country, the pediatricians have stood in the vanguard for vaccination. Hepatitis B, HiB, MMR, IPV, Rotavirus and PCV vaccines were all first advocated to be used by Indian Academy of Pediatrics (IAP) amongst its members, and then they were introduced in the government program as and when resources were available; and resources do not mean just money but also infrastructure. The stand of IAP on various vaccines has thus been vindicated in the last two decades by the introduction of above vaccines, and by the imminent introduction of PCV and Rotavirus vaccine, both of which will be scaled-up by the government in the whole country.

Diseases which can be prevented by vaccines cause the physical, mental and financial burden in form of early and untimely deaths, suffering of kids and family, frequent visits to health care providers and multiple hospitalizations. Sickness in the household is one of the major factors that pulls down a brute majority of the families below the poverty line. Thus sickness is major contributor to poverty in the country. Parents are forced to lose time from work to care of their sick children. The vaccines are one of the excellent cost-effective interventions to increase the productivity of the individual, family, society, and thus the nation. Each dollar spent on vaccination leads to a saving of sixteen dollars for the country.

When we immunize large number of individual children, it also helps those people of community who cannot be vaccinated (eg, people suffering from immunodeficiency, cancer, those on immunosuppressants, too young to vaccinate), and to few who do not respond to specific vaccine. Here comes the concept of "herd immunity" and "source drying". Let's at least make a herd effect if we can't vaccinate all our kids for all vaccine preventable diseases, and give our nation more healthy and

productive days of life, so that we could see a dream of healthy and prosperous India come true.

The maximum coverage of vaccination will also provide the following benefits to the society:

- Better health, better disease-free life and savings for community
- Improvement in life expectancy
- Resistance to development of antibiotic resistance
- Women empowerment
- Travelling to endemic zones for particular disease becomes easy and less distressing
- Economy will become robust
- Equity will prevail in society/community
- Prosperity and peace in society and country
- Other public health benefits

Our quality of life improved over last few decades just because of vaccines. This is the very tool, which demolished the deadly fort of smallpox and eliminated other diseases like tetanus and polio. Freedom from polio has protected generations from a difficult life and gave them opportunity to feel blessed that they live in the era of vaccination. Now a day, our kids do not have to be absent from their school to fight the battle with whooping cough. Parents are no more unassisted to see the bodily suffering of their children in the battle of disease and body's natural response. If we consider all these benefits of vaccination in economical terms, we find that all these hours are directly converted into productive work, less lost hours and more administrative benefits; these all show a road of more prosperous and efficient society.

In this way, we can conclude that a robust and comprehensive immunization program will hit hard to the poverty and inequities in community, and will strengthen our public health.

*"The aim of the medicine is to prevent disease and prolong life; the ideal of medicine is to eliminate the need of a physician."* – William James Mayo

#### REFERENCES

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