



Impact of covid-19 pandemic on immunization routine in India - A Review

Deepthi Mariya Davis^{*1}, Dhanya Dharman², Shaiju S Dharan³

1 Department of Pharmacy Practice, Ezhuthachan College of Pharmaceutical Sciences, Marayamuttom, Neyyattinkkara, Trivandrum, Kerala, India.

2 Assistant Professor, Department of Pharmacy Practice, Ezhuthachan College of Pharmaceutical Sciences, Marayamuttom, Neyyattinkkara, Trivandrum, Kerala, India.

3 Principal, Ezhuthachan College of Pharmaceutical Sciences, Marayamuttom, Neyyattinkkara, Trivandrum, Kerala, India.

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*Corresponding author:

Phone : + 91 - 7356238324

Email : deepthimariyadavis@gmail.com

ABSTRACT

Coronavirus disease 2019 (COVID-19) is a contagious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The first case was identified in Wuhan, China, in December 2019. The disease has since spread worldwide, leading to an ongoing pandemic. By this, as a part of break the chain of spreading the disease, home lockdown were implemented all over the world and in India, it was implemented through four phases based on urgency of going out by the people for their basic necessities. Because of this, all people were became panic to go out and as a part of this, parents were afraid to bring their child for providing regular immunization doses which makes to bring more risk for Vaccine Preventable Diseases (VPDs). In this review, we can analyze how Covid- 19 lockdown affected Routine Immunization (RI) in India and mitigation steps taken to overcome this problem in this pandemic situation.

INTRODUCTION

The Covid 19 pandemic has negatively impacted every aspect every aspect of life. The economic sector has been the most affected and preventive health services have been almost kept on hold. Primary health care services, including immunization, have been disrupted, putting women and children at risk for vaccine-preventable diseases (VPDs), such as measles, rotavirus, and tetanus. Several districts and blocks in India have had partial or complete lockdown on-and- off, affecting movement of people. Fear of getting the infection, social distancing norms and other infection prevention control practices have adversely affected health seeking behavior and routine visits to health care facilities. In April 2020, the health management and information system data reported a decrease in the number of routine immunization sessions relative to the previous year. The

number of fully immunized children also decreased over the same time period. From this, shows that chances of VPDs will additionally increases with already complicated health care system in this condition^[1].

IMMUNIZATION PROGRAM IN INDIA AND ITS IMPORTANCE

Immunization Programme is one of the key interventions for protection of children from life threatening conditions, which are preventable. It is one of the largest immunization programme in the world and a major public health intervention in the country. Immunization Programme in India was introduced in 1978 as "Expanded Programme of Immunization" (EPI) by the ministry of Health and Family welfare, Govt. of India. In 1985, the programme was modified as "Universal Immunization Program

(UIP) to be implemented in phased manner to cover all districts in the country by 1989- 90 with one of the largest health programme in the world. In 1992, it became a part of Child Survival and Safe Motherhood Programme and in 1997, it was included in the ambit of National Reproductive and Child Health Programme. Since the launch of National Rural Health Mission in 2005, Universal Immunization Programme has always been an integrated part of it.

Universal Immunization Programme is one of the largest public health programmes targeting close of 2.67 crore newborns and 2.9 crore pregnant women annually. Under this, Government of India is providing vaccination to prevent seven vaccine preventable diseases i.e. Diphtheria, Pertussis, Tetanus, Polio, Measles, severe form of Childhood Tuberculosis and Hepatitis B, Haemophilus influenza type b (Hib) and Diarrhea. The two major

milestones of it have been occurred; the elimination of polio in 2014 and maternal and also neonatal tetanus elimination in 2015.

Mission Indradhanush (MI) was launched in December 2014 and aims at increasing the full immunization coverage to children to 90%. Under this drive focus is given on pockets of lowimmunization coverage and hard to reach areas where the proportion of unvaccinated and partially vaccinated is highest. A total of six phases of MI have been completed covering 554 districts across the country^[2, 3].

IMPACT OF COVID-19 LOCKDOWN IN INDIA

World Health Organization (WHO) declared the Covid-19 as a global pandemic on March 11, 2020. As of this, countries all over the world has begun to implement lockdown as one of the strategy to tackle the spread of SARS- CoV-2 virus. Similar to

NATIONAL IMMUNIZATION SCHEDULE IN INDIA^[3]

National Immunization Schedule				
Vaccine	When to give	Dose	Route	Site
For Infants				
BCG	At birth or as early as possible till one year of age	0.1ml (0.05ml until 1 month of age)	Intra -dermal	Left Upper Arm
Hepatitis B Birth dose	At birth or as early as possible within 24 hours	0.5 ml	Intramuscular	Anterolateral side of mid-thigh-LEFT
OPV Birth dose	At birth or as early as possible within the first 15 days	2 drops	Oral	-
OPV 1,2 & 3	At 6 weeks, 10 weeks & 14 weeks	2 drops	Oral	-
IPV (inactivated Polio Vaccine)	14 weeks	0.5 ml	Intramuscular	Anterolateral side of mid thigh-RIGHT
Pentavelant 1,2 & 3	At 6 weeks, 10 weeks & 14 weeks	0.5 ml	Intramuscular	Anterolateral side of mid thigh-LEFT

Vaccine	When to give	Dose	Route	Site
Rota Virus Vaccine	At 6 weeks, 10 weeks & 14 weeks	5 drops	Oral	-
Measles 1 st Dose	9 completed months-12 months. (give up to 5 years if not received at 9-12 months age)	0.5 ml	Subcutaneous	Right Upper Arm
Vitamin A, 1 st Dose	At 9 months with measles	1 ml (1 lakh IU)	Oral	-
For children				
DPT 1 st booster	16-24 months	0.5 ml	Intramuscular	Anterolateral side of mid thigh-LEFT
OPV Booster	16-24 months	2 drops	Oral	
Measles 2 nd dose	16-24 Months	0.5 ml	Subcutaneous	Right Upper Arm
Vitamin A (2 nd to 9 th dose)	16 months with DPT/OPV booster, then, one dose every 6 month up to the age of 5 years)	2 ml (2 lakh IU)	Oral	-
DPT 2 nd Booster	5-6 years	0.5 ml.	Intramuscular	Left Upper Arm
TT	10 years & 16 years	0.5 ml	Intramuscular	Upper Arm

other countries, India had also declared lockdown strategy which poses serious problems to the health industry, economy and also too many other sectors.

The conduct of Routine Immunizations (RI) activities during lockdown period may increase the incidence of the diseases such as Measles, Pertussis and Polio. In India, a survey conducted in 30 villages of Rajasthan revealed that around 250 children lost the opportunity to get vaccinated due to various reasons. Considering this rate from one village, it can be estimated that around five million children missed their RI all over the India. From this analysis, living in the era of Covid- 19 pandemic can increase the dropout of RI and thus will increase the prevalence of Vaccine

Preventable Disease (VPD) and also may occurs the emergence of eliminated VPDs in India such as polio and measles^[4,5].

Missed dosing is not only a concern for India, but a global threat. According to an analysis, vaccine interruption triggered by the Covid-19 pandemic are expected to have a fear reaching impact on the immunization services in the least developed countries^[6].

The increasing dropout rate which causes interruptions of RI activities during the lockdown period are mainly unavailability of public transport makes more difficulty for peripheral healthcare workers and parents to conduct immunization. The fear of getting

transmission of Covid- 19 disease to children during those days was one of the important reason for dropout of RI as the lockdown protocol includes prohibition of going out from home for children below 10 years of age. Some other reasons such as lack of appropriate health infrastructure to maintain social distance norms, hand washing practices and timely delivery of logistics at the immunization clinics to carry out RI activities smoothly, Timely supply of the vaccines, maintenance of cold chain during the vaccine supply and lack of appropriate personal protective gear for the health workers were some of the barriers in which health workers felt insecure while providing their service.

ROUTINE IMMUNIZATION PRACTICE IN INDIA DURING COVID PANDEMIC SITUATION

Immunization is a core health services that should be prioritized for the prevention of communicable diseases and safeguarded for continuity during Covid- 19 pandemic where feasible. Immunization delivery strategies may need to be adapted and should be conducted under safe condition, without any harm to health workers, caregivers and the community. VPDs surveillance should be maintained and reinforced to enable early detection and management to VPD cases and where feasible, contribute to surveillance of Covid- 19. The WHO suggested that if any child missed the routine vaccination date, should get it done as soon as possible. There are some mitigation strategies to

overcome the dropout of RI schedule in India as follows;

- By the use of video or telecommunications, parents can clear their doubts related to missed dose of RI and also can clarify doubts regarding their child's growth and development at that age. By this, doctors encourage parents to bring their child for vaccination in a safer manner.
- The local authorities are to be follow specific guidelines and standard procedures for conducting immunization program in Covid- 19 pandemic using specific protocols and also should be ensure that all these are implemented by healthcare workers in a safer and effective manner.
- Doctors and other healthcare workers including ASHA workers, etc. should reach out to families in their region through phone calls or text messages in prior to collect the details regarding their child and their missed vaccine doses. They should also inform about the parents regarding importance of taking missed dose of vaccine in the midst of Covid- 19 pandemic and its related complications in their child's later phase of life. This is to be conducted in a proper distance keeping, hand washing and sanitized along with proper use of face mask^[7].

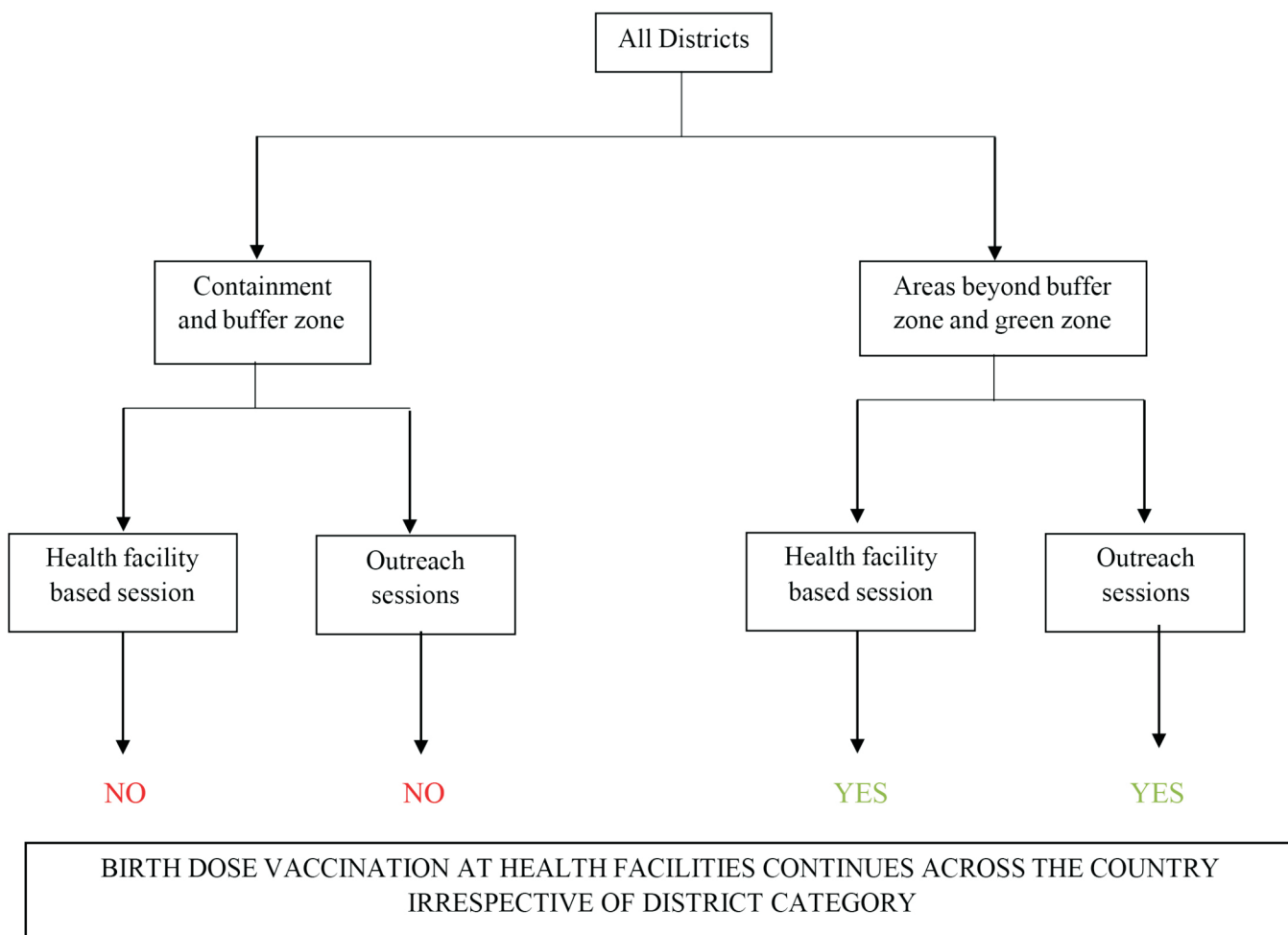


Fig. 1 : Shows the immunization services conducted during and post covid- 19 outbreak^[8]

CONCLUSION

Although Covid- 19 pandemic situation is not yet end till now, we should also aware about the health of children. As we had achieved the elimination of polio and measles in India, due to dropout of RI, re-emergence of VPDs may appear and it will be more complicated along with Covid- 19 disease.

Through proper patient education regarding compulsory need of taking vaccination, following Covid- 19 protocol, we can reduce the prevalence of VPDs and can secure the health of the children.

RELEVANCE OF THE REVIEW

There has been a significant impact of lockdown on RI in under 5 years of age, and a urgent vaccination drive in the need of the hour.

CONFLICT OF INTEREST

Nil

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