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RESEARCH ARTICLE

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MISSED VACCINATION DUE IN UNDER 5 CHILDREN DURING LOCKDOWN: IS COVID-19 A CULPRIT?

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ABSTRACT

Background: Immunization is the powerful tool to reduce the Under 5 mortality and morbidity. National Immunization schedule is prepared by ministry of health and Family Welfare; It makes vaccine free of cost. ¹ Considering current situation where social restrictions and fear of COVID -19 has occupied entire nation , emphasis should be made on routine vaccination for children, reducing the risk for outbreak of vaccine preventable diseases. **Aim and objective:** To find out how many Under 5 children have missed vaccination in lockdown; To find out the reason for the missed vaccination. **Methodology:** This observational study was conducted among 160 under 5 age children visiting the D.Y.PATIL hospital Pediatric OPD in during June2020 to November 2020. Detailed immunization history noted and number of children who has missed vaccine and their reason noted. **Result :** Of total 168 study sample, 18% had missed vaccination. On assessing the reason for missing the due schedule , 45% due to closure of anganwadi , 29% due to fear of COVID,19% due to other illness, 7% gave reason as they were not notified. **Conclusion:** Vaccination for most vaccine preventable diseases are given free of cost to all children by government², utilizing them are core responsibility as a citizen. This survey shows highest reason for missing routine vaccine as closure of anganwadi. As government has not given orders to close anganwadi ,public health should take adequate action to make sure all anganwadi should kept open even during strict lockdown and Action should be taken to create awareness to the public through social media and public sources by Public health agencies on need of continuation of routine vaccines in such adverse situation to prevent outbreak of vaccine preventable disease.

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INTRODUCTION

Vaccination/Immunization is the process of induction of immune response (protection) by deliberate inoculation of appropriate immunogen in the form of vaccine. A vaccine usually contains an inactivated or weakened form of disease

causing agent which when injected into the body stimulates the immune response for that organism, thereby creating our body immune to that organism before being infected with that organism. Immunization is the powerful tool to reduce the Under 5 mortality and morbidity. By vaccinating our children, we are also protecting the most vulnerable members of our community, including new-born babies. National Immunization schedule is prepared by ministry of health and Family Welfare; It makes vaccine free of cost and delivered through various centers / state government agencies, Health workers and private practitioners.¹ In last two decades India has made significant progress in improving health indicators,

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particularly those related to child health. The country was certified Polio free in 2014 and eliminated maternal and neonatal tetanus in 2015. Only 77% of children in India receive full immunization in their first year of life, putting their families and communities at risk of deadly outbreak of diseases, despite the effort made by the Government Who makes vaccines affordable and easily existable. In October 2017, the prime minister of India launched Intensified Mission Indradhanush (IMI)—an ambitious plan to accelerate progress. It aimed to reach 90% full immunisation coverage in districts and urban areas with persistently low levels.² Missing the vaccination put the life of a child to threat. It is vital to spread awareness about the consequence of missing vaccination to parents and caregivers.

National Immunization Schedule

Age	Vaccines given
Birth	Bacillus Calmette Guerin (BCG), Oral Polio Vaccine (OPV)-0 dose, Hepatitis B birth dose
6 Weeks	OPV-1, Pentavalent-1, Rotavirus Vaccine (RVV)-1, Fractional dose of Inactivated Polio Vaccine (IPV)-1, Pneumococcal Conjugate Vaccine (PCV)-1*
10 weeks	OPV-2, Pentavalent-2, RVV-2
14 weeks	OPV-3, Pentavalent-3, IPV-2, RVV-3, PCV-2*
9-12 months	Measles & Rubella (MR)-1, JE-1** , PCV-Booster*
16-24 months	MR-2, JE-2**, Diphtheria, Pertussis & Tetanus (DPT)-Booster-1, OPV – Booster
5-6 years	DPT-Booster-2
10 years	Tetanus & adult Diphtheria (Td)
16 years	Td
Pregnant Mother	Td-1, Td-2 or Td-Booster***

* PCV in selected states/districts: Bihar, Himachal Pradesh, Madhya Pradesh, Uttar Pradesh (selected districts) and Rajasthan; in Haryana as state initiative

** JE in endemic districts only

*** One dose if previously vaccinated within 3 years

As per NFHS 5(2019-2020) in India the national average of full immunization is 77.8% with DPT coverage -92.6%, measles 82.1%.³

There has been alarming increase in measles case worldwide even in countries where it has been eliminated. Considering current situation where the COVID -19 has occupied the entire nation, it became a threat to the community by its nature of spread and also by affecting the regular lifestyle of the population, it might pose a problem in vaccination program either by lack of stock or non availability of vaccination centers or fear of leaving the house due to deadly spread of COVID-19. There is no survey data showing the immunization coverage during this pandemic, but many studies shows that there is significant reduction in immunization attendance posing major threat for outbreak of vaccine preventable diseases.⁴ As per the data collected in Kolhapur district, last 3 years immunization coverage status of under 5 children in 2018, 2019, 2020 are 82%,80%,69% respectively, which shows that coverage was decreased in the last year. Hence this survey is conducted in COVID- 19 lockdown from June to November 2020, to find out whether there is any missing vaccination due in under 5 children and what are the reasons for missing the routine vaccine, thereby helpful to rectify it or predict the deadly outbreak which affect the vulnerable population and take adequate precautions regarding it.

AIM AND OBJECTIVES

- To find out how many Under 5 children have missed vaccination Due during COVID lockdown
- To find out the common reason for the missed vaccination due

METHODOLOGY

- This study was conducted among 168 under 5 age children visiting the D.Y.PATIL hospital Pediatric OPD in during June2020 to November 2020.
- Parents were asked about the last vaccination due and those whose due was between march 2020 to November 2020 were included in the study.
- Children aged less than 5 years detailed immunization history was noted and number of children under 5 years who were taken or missed the vaccination noted and if missed the reason for not vaccinated in The due date was also noted.
- The collected data was statistically analysed.
- For those who were missed proper counselling done and were advised to take the missed vaccination as soon as possible.

RESULTS

Of total 168 study sample,18% had missed their vaccine ,of which 16% missed in less than 10 months old; 24% missed in 11 to 20 months group,18% missed in 21-30 months group, 32 % missed in 51 -60 months group. Frequency distribution of vaccine in different age group are denoted in table 1 and figure 1.

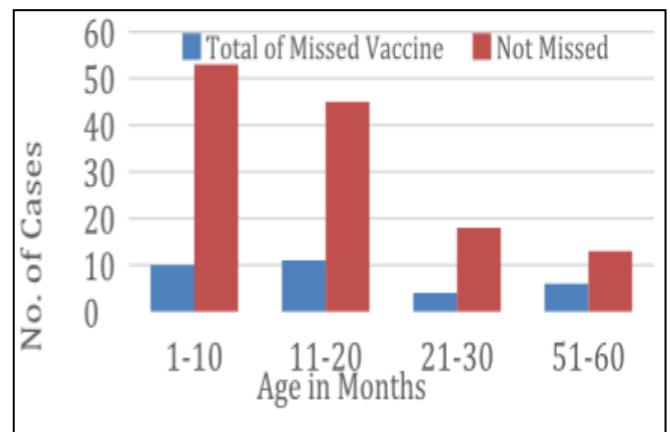


Figure 1. Distribution of Distribution of Vaccine with Age

Table 1. Frequency Distribution of Vaccine with Age

Age (in Months)	Missed Vaccine At								Total of Missed Vaccine	Not Missed
	6-weeks	14-Weeks	9-Months	12-Months	15-Months	18-Months	24-Months	5-Years		
1-10 (n=63)	3 (30%)	1 (10%)	6 (60%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	10 (16%)	53 (84%)
11-20 (n=56)	0 (0%)	0 (0%)	2 (19%)	3 (27%)	3 (27%)	3 (27%)	0 (0%)	0 (0%)	11 (24%)	45 (76%)
21-30 (n=22)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (25%)	3 (75%)	0 (0%)	4 (18%)	18 (82%)
51-60 (n=19)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	6 (100%)	6 (32%)	13 (68%)

On assessing the reason for missing the due schedule, 45% have missed due to closure of anganwadi,29% had missed due to fear of COVID,19% had missed due to other illness, 7% gave reason as they were not notified. The frequency distribution of reason for missing the due is depicted in table 2 and figure 2.

Table 2. Frequency Distribution of reason for missed vaccine

Reason	Missed Vaccine At								Total no. of missed vaccine
	6-Month	14-Week	9-Month	12-Month	15-Month	18-Month	24 Months	5-Year	
closure of Anganwadi	1	0	5	1	1	3	1	2	14 (45%)
Fear for COVID-19	1	0	1	1	1	1	1	2	9 (29%)
Not Notified	0	1	0	0	0	0	2	1	2 (7%)
Other Illness	1	0	2	1	1	0	0	1	6 (19%)

CONCLUSION

Vaccination for most vaccine preventable diseases are given free of cost to all children by government, utilizing them are core responsibility as a citizen. During covid 19 lockdown, significant number of children had missed their due routine vaccine, this survey shows highest reason for missing routine vaccination was closure of anganwadi. As government has not given orders to close anganwadi, public health should take adequate action to make sure all anganwadi are kept open even during strict lockdown with health workers giving health education on routine vaccination to prevent VPD. Action should also be taken to create awareness to the public through social media and public sources by Public health agencies on continuation of routine vaccines and its essentiality in such adverse situation. Health education should focus to remove the fear of COVID 19, by emphasizing on preventive measure.

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