

Study of The Effect of Covid19 Pandemic on Routine Childhood Immunization Services in Post Covid Epoch in a Tertiary Care Teaching Hospital of Western India.

¹Dr. Neha Nayak, Postgraduate Resident, Pediatrics PCMC's, Postgraduate Institute, YCMH, Pimpri, Pune-18.

²Dr. Deepali Ambike, Professor and head Pediatrics, PCMC's, Postgraduate Institute, YCMH, Pimpri, Pune-18.

³Dr. Rajesh Kulkarni, Associate Professor Pediatrics, PCMC's, Postgraduate Institute, YCMH, Pimpri, Pune- 18.

⁴Dr. Sandhya Haribhakta, Associate Professor Pediatrics, PCMC's, Postgraduate Institute, YCMH, Pimpri, Pune- 18.

Corresponding Author: Dr. Deepali Ambike, Professor and Head Pediatrics, Postgraduate Institute Yashwantrao Chavan memorial hospital, Pimpri, Pune, Maharashtra, India.

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Abstract

Introduction: The corona virus disease (COVID 19) pandemic has negatively impacted every aspect of life. The immunization services have been disrupted, putting children at risk for vaccine preventable diseases (VPDs). The number of fully immunized children also decreased over the same time period which emphasizes that any flare of VPDs will additionally burden an already stressed health care system.

AIM: To determine the impact of COVID -19 pandemic on routine immunization services in a tertiary care hospital in Western India. **OBJECTIVES:** To assess the reasons behind the impact on immunization services during the pandemic.

Methods and materials: This is a prospective cross-sectional study done over 6 months from June 2021 to

December 2021 by administering an open-ended questionnaire to parents of pediatric patient's outpatient and inpatient after an informed consent. The data is statistically analyzed using SPSS version 24.0.

Results: Of 104 respondents, 84 (80.8%) were aware about the availability of immunization services, but only 48 (46%) children were completely vaccinated for age.

With the majority of government immunization centers working, 24(23.1%) patients' parents still had difficulty in accessing them during the study period. Among all respondents, 26 parents felt that vaccines shouldn't be taken during the pandemic.

Of 104 respondents, 19 (18.3%) were unaware about the schedule, 14 (13.5%) said that lockdown was the reason for missing/delaying the vaccination, 9 (8.7%) said that

the child was unwell, so they could not go for vaccination.

Conclusion: Above results show the decline in immunization coverage during the study period despite most of the parents being aware about the immunization services and the majority of government immunization centers working.

This also indicates the need for an aggressive campaign for catch up immunization for children who missed vaccines during the pandemic, thereby decreasing the burden on our overstressed health system.

Keywords: Immunization, Lockdown, Pandemic, Covid 19.

Introduction

The coronavirus disease (COVID-19) pandemic has negatively impacted every aspect of life. The economic sector has been the most affected and preventive health services have been almost kept on hold. The global COVID-19 pandemic overstretched health systems. Immunization is one of the safest and most cost-effective ways to end vaccine-preventable child deaths.

It is the process of regularly vaccinating children with vaccinations considered necessary for a particular country to reduce morbidity and mortality. (1-4)

Vaccine preventable diseases (VPDs) are still responsible for roughly one-fourth of all fatalities in children under five.

As a result, VPDs create a severe economic and social catastrophe for individuals, families, and entire communities. (5-6).

COVID 19 pandemic was one of the deadliest pandemics with more than 3.8 million deaths being attributed to it worldwide.

The COVID-19 pandemic has been unprecedented in its scale and impact and has necessitated measures such as

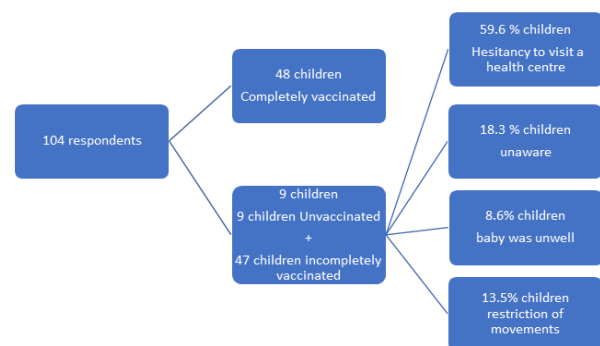
regional or country-wide lockdowns, travel restrictions, and social distancing. (7). Many vaccination clinics and hospitals held their services and rerouted care to selective urban centers creating transportation challenges for those seeking immunization from remote areas. Social distancing led to limitation of the mouth-to-mouth publicity, door-to-door campaigns, which was the crux of strategies used by Mission Indradhanush national programme.

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. Once the recommended age of immunization or maximum interval for follow-up doses has passed, the utility of a catch-up dose may no longer be beneficial. (7)

We aim to study the effect of COVID-19 pandemic on routine immunization services in a tertiary care Centre and to assess the reasons for the impact on immunization services during the post COVID epoch.

Materials and methodology

This is a prospective observational cross-sectional study done in a tertiary care hospital in Western India which caters to a population of around 1.7 million. The study was done over duration of 6 months from June 2021 to December 2021 with a sample size of 104 (as per census sampling)



Graph 1:

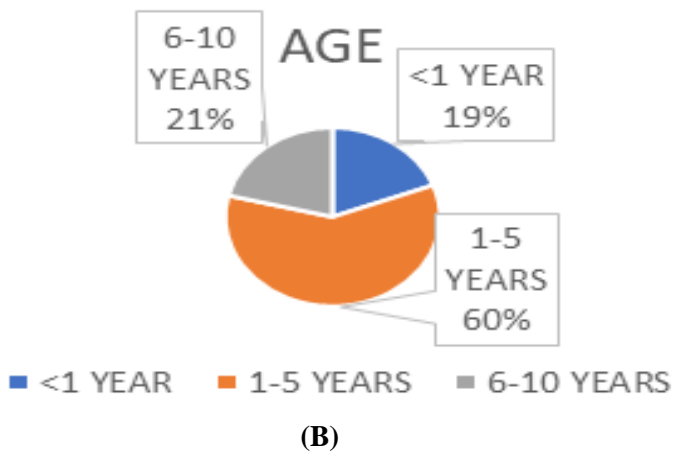
All parents coming to pediatric outpatient department/ in-patient department with their children were included after giving written consent. A structured prevalidated questionnaire was given to the parents coming to outpatient and inpatient department in Pediatrics.

It was a one-time interview in the local language. All the responses were entered in MS Excel format and statistically studied using SPSS version 24.0. This study hypothesized that as routine childhood immunization services were affected in the post covid epoch.

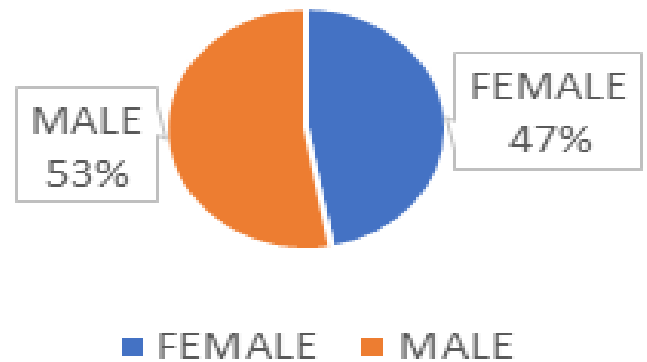
Results

The present study depicts that 80.8 % of parents are aware about the importance of vaccination and its routine schedule, while 19.2% were unaware about these immunization services. In spite of the government launching intensified routine immunization campaigns, a major portion of the population is still left.

Figure 1: Demographic distribution.

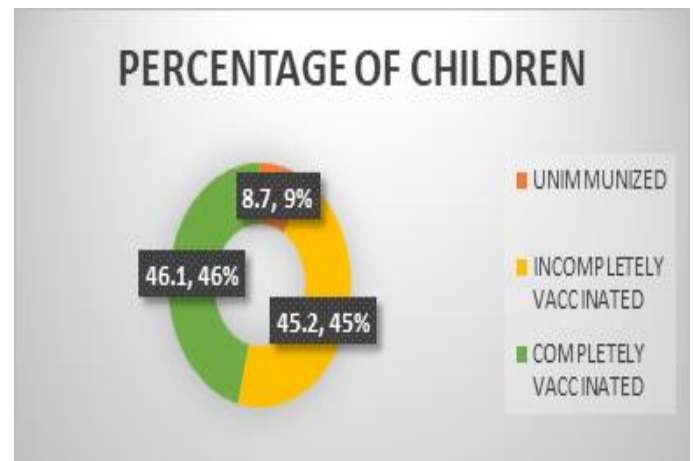


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Of 104 respondents, 20 (19.2%) had their child below 1 year, 62 (59.6%) had their child aged between 1 – 5 years and 22 (21.2%) had their child between 6 – 10 years. Also, 49 (47.1%) children were male and 55 (52.9%) children were female.

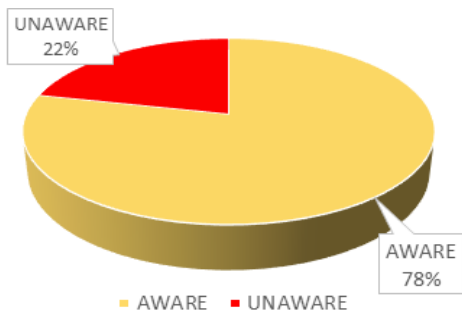
Figure 2: Distribution of awareness regarding immunization among the parents participated in the study



Of 104 respondents, 9 (8.7%) had not given any vaccine to their children, 47 (45.2%) did not complete the vaccination for age of their children and 48 (46.1%) had completed the vaccination as per the age of the child.

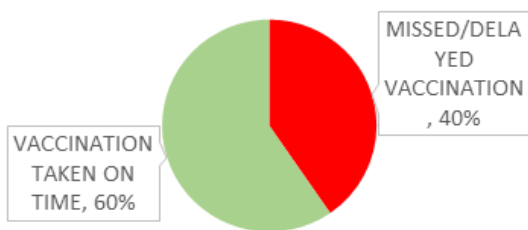
Out of all the respondents, 24 parents (23.1%) said that they had difficulty in accessing the immunization centers, in spite of the majority of them working.

Figure 3: Awareness about the importance of immunization among unimmunized /partially immunized group.



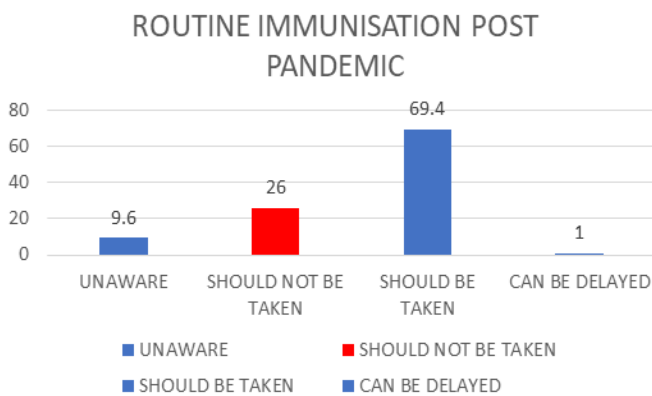
Of 56 unimmunized and partially immunized children, 44(78.5%) parents were aware about immunization schedule in India and 12 (21.5%) had no awareness.

Figure 4: Distribution of timely vaccinations during the study period.



Of 104 respondents, 62 (59.6%) did not miss or delayed vaccination and 42 (40.4%) missed or delayed the vaccines.

Figure 5: Distribution of attitude of parents towards immunization in the post covid-19 pandemic study period



Out of all the respondents, 26% of parents felt that routine immunization is not necessary amidst the pandemic scare even after lifting of the lockdown 2.0.

Of 104 respondents, 66 (63.4%) parents knew about the reason for vaccination, of which 36 (54.5%) said that the vaccination can provide protection from illness. 20 (30.3%) said that it acts as an immunity booster, and 10 (15.2%) said that vaccination decreases the duration of illness.

Figure 6: Distribution of unimmunized/ partially immunized children according to parental occupation.



P-value for impact of parental occupation on immunization status of child was 0.067 which is more than 0.05. Hence, it is statistically non-significant, which means that the occupation of parents did not interfere with the immunization status of the child.

Discussion

The present study shows that during the post lock down period, an absolute number of all beneficiaries receiving routine immunization was low as compared to normal days. These results are comparable with studies conducted by Patel et al. and in a study of Saudi Arabia and Pakistan. (8-10)

With the majority of government immunization centers working, 26 %parents in our study did not take their children for vaccination post pandemic. Most countries had initiated a national lockdown, of some form and at some time, restricting people’s movement except those

providing essential services (“key workers”). But even after the lockdown was lifted, there was no much improvement in the routine immunization coverage (11). A backsliding attitude of parents towards immunization post pandemic has been observed by Martin et al similar to our study (12)

Sustained period of disrupted immunization led to disease outbreaks where many children could not avail the routine immunization services as they were sick may be due to covid or other diseases which was also observed in Shet et al study of BMJ Pediatrics (13) Only few parents knew about the immunization centers in our area catering to immunization similar to the Rajasthan study (14) The benefits of immunization far outweigh the risk associated with travelling in a pandemic to the centers. WHO and thereafter MoHFW and Advisory committee on Vaccine and Immunization Practices (ACVIP) has declared immunization as an essential health care activity even during covid-19 pandemic.

Limitations

1. Small sample size.
2. The study did not include the morbidity in the sample population.
3. Single center study.
4. There was no data on immunization coverage in precovid era.

Conclusion

COVID 19 pandemic has contributed to the pool of unimmunized children, leaving them at risk from devastating but preventable diseases.

Although, we can't overlook the fact that comparable number of parents in this study were also unaware about immunization and its advantages. The pandemic had just made the bad situation worse. There is still a need to work on education of parents so that in case of a future

pandemic, preparedness and response in terms of childhood immunization remains sturdy. It is also necessary for implementation of immunization services for adequate catch-up of delayed missed immunizations.

Contribution of Authors

- Conception and Design: NN and DA, Planning and Conduction of Study: NN, DA and RK
- Data Collection and Supervision: NN. Analysis and Interpretation: RK and DA

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