

**Impact of Covid 19 outbreak on routine Universal Immunization in Kashmir: A case study of District Anantnag.**

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**Introduction**

Covid 19 caused by the infection with novel coronavirus (SARS -CoV-2) Severe Acute Respiratory Syndrome Corona virus 2, originated from Hubei province of Wuhan (China) in December 2019. On February 10, 2020, a total of 1000 deaths and nearly 40,000 confirmed cases were recorded in China. At the beginning of 2020, it began to spread throughout the world, surpassing the history of the previous two virus outbreaks, namely Severe Acute Respiratory Syndrome Coronavirus (SARS CoV) and Middle East Respiratory Syndrome Coronavirus (MERS CoV). The World Health Organization declared it a pandemic on March 1, 2020. In India the first case was reported on January 30, 2020, from Kerala, involving a student, who had returned from Wuhan University China. On February 3, three more cases were reported in Kerala, all of whom were students at Wuhan University, and 22 cases were reported on 4<sup>th</sup> March 2020, increasing the number of active cases day by day. Nationwide lockdown was imposed in various stages, social distancing and other preventive measures with complete restrictions on international and domestic flights, educational institutions, factories, and suspension of all non-essential services were implemented to prevent the virus from spreading further. From the 20th of April, a provision for relaxation was made for selected agricultural activities, cargo transportation, and the sale of farming supplies. On April 16th, the government divided the districts into red zones, orange zones, and green zones. The red zones were identified as hotspots with rapid increase in Covid cases, the orange zones as having some infection, and the green zones as being infection-free. Essential services continued to be available in green zones, while some industrial and manufacturing activities were permitted in all zones. Approximately 22, 68,675 confirmed cases and 45,257 deaths have been reported in India as of August 11, 2020 (National Health Service, 2020).

**COVID -19 in Jammu and Kashmir and its Impact**

The first case of covid-19 was reported from China on January 30, 2020. Slowly, the pandemic spread throughout the world, including the Union Territory of Jammu and Kashmir. On March 4, 2020, two cases of the virus were detected and isolated at the Government Medical College in Jammu. On March 9, 2020, one of them became the first confirmed positive case. Both individuals had visited Iran previously. Following that, a 65-year-old man from Kashmir died while attending a congregation of Tablighi-Jammat at Nizamuddin Basti in Delhi (Nelson, 2020). As of July 2020, the total number of positive cases in Jammu and Kashmir was 17,305. As a result, there were 7,483 active cases, 9,517 successful recoveries/discharges, and 305 deaths (WHO, 2020). The government also prohibited foreign tourists from entering Kashmir, which harmed the UT's economy

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**Status of Surveillance of COVID-19 in Jammu and Kashmir (UT)**

S.NO	Category	J&K (UT)		
1	Persons enlisted for observation	388741		
2	Persons kept under home quarantine (Incl facilities operated by Govt.)	42012		
3	Persons kept in Isolation	7264		
4	Surveillance completed	291702		
5	Persons under home surveillance	47304		
6	No of Test Results Available	706780		
6.1	No. of samples tested Negative	682390		
6.2	No. of samples tested positive	24390		
7	No of Active Positive Cases	7264		
		<b>Jammu</b>	<b>Kashmir</b>	<b>Total</b>
7.1	Active Positive	1756	5508	7264
7.2	Recovered and Discharged	3692	12975	16667
7.3	Deaths	34	425	459

*Table 1: Cumulative till 08 August 2020 (up to 5:00P.M)*

*Source: DIPR-J&K (@diprjk) on Twitter". Mobile.twitter.com. Retrieved; 3, June 2020.*

**Immunization during Covid 19**

The Universal Immunization Program is one of the most important strategies for protecting children from potentially fatal diseases. It is one of the world's largest immunization programs and a significant public health initiative in the country. Under the Universal Immunization Programme, Government of India is providing vaccination to prevent seven vaccine preventable diseases i.e. Diphtheria Pertusis Tetanus, Polio, Measles, severe form of Childhood Tuberculosis and Hepatitis B, Haemophilic influenza type b (Hib) and Diarrhea.

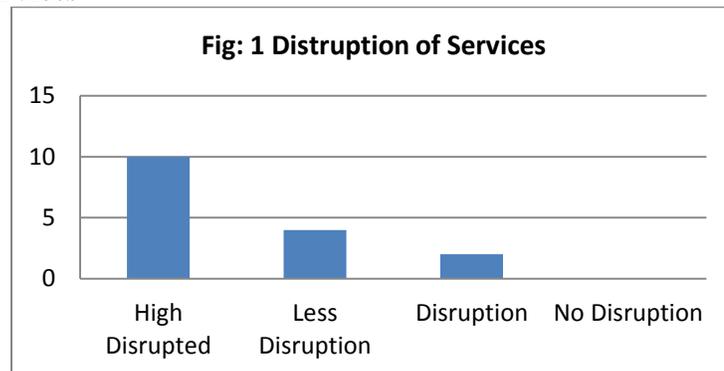
The Universal Immunization has been one of the most effective interventions in reducing infant mortality to historically low levels throughout the world. Complete, timely vaccination protects and benefits children throughout their childhood. However, if vaccine schedules are delayed or incomplete, this protection is greatly reduced and can lead to vaccine preventable infection and related deaths. During the COVID-19 pandemic outbreak, many countries declared lockdown as a precautionary response to prevent the disease from spreading to the masses due to which routine universal immunization was interrupted, delayed, reorganized or completely suspended (Nelson, 2020). In England, the number of MMR (Measles, Mumps, and Rubella) vaccines delivered fell by 20% in first three weeks of lockdown and similar drops were reported in infant vaccines in Scotland. (Saxena, 2020). Since March 2020, routine universal immunization services in at least 68 countries have been significantly impacted, ranging from moderate to severe disruptions to total suspension, as a result of the pandemic, and are expected to affect approximately 80 million children under the age of one year living in these countries (WHO, 2020). In India the routine immunization was disrupted due to health care workers being reorganized in response to pandemic (Nelson, 2020). The delay in routine immunization caused parents to panic, and it also made it difficult for health Functionaries like Asha workers to provide services during the pandemic. The current study tries to analyze the impact of Covid 19 pandemic on routine immunization schedules in District Anantnag of J&K.

**Methodology:** A qualitative research design was used to carry out the study's goal. A qualitative research allowed us to investigate various challenges and issues encountered by people and health care service providers while providing routine immunization during Covid 19. The study has gathered the perspective of Health Functionaries and the perspective of beneficiaries on the impact of Covid 19 pandemic on routine immunization schedules. The universe of the study was Anantnag district of Jammu and Kashmir. The data was collected through Interviews of Health Functionaries and the Beneficiaries. Further, the telephonic interviews were conducted to collect data. The social distancing guidelines were followed during data collection. A total number of 32 interviews were conducted, 16 with health functionaries and 16 with beneficiaries (who were the parents of children receiving routine immunization). Each interview lasted approximately 35-45 minutes. The information was gathered in the month of October to December, 2020.

**Results:** The thematic analysis of the data was broadly classified into two major themes i.e. 1. Perspective of Health Functionaries related to impact of Covid 19 pandemic on routine immunization schedules. 2. Perspective of Beneficiaries related to impact of Covid 19 pandemic on routine immunization schedules.

### 1. Perspective of Health Functionaries related to impact of Covid 19 pandemic on routine immunization schedules.

#### 1.1 Disruption of Services

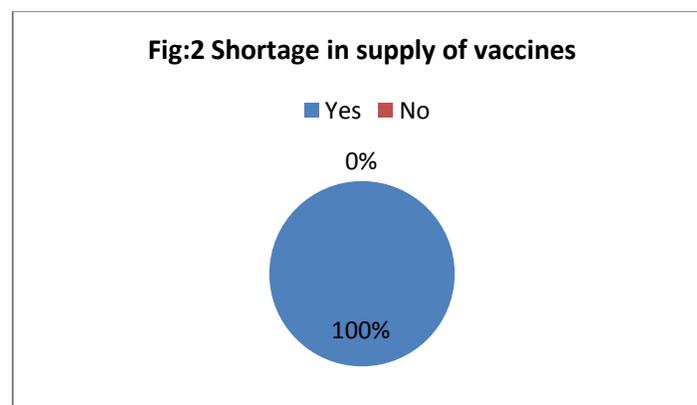


The perspective of health functionaries was on the first instance taken to gauge the disruption of services. All the health functionaries have reported that there was disruption of services. Out of 16 health functionaries 10 have reported that the disruption was very high referring to total closure of routine immunization services. Four have reported that there were fewer disruptions and two reported that there were disruptions in routine immunization services but not the total closure.

#### 1.2 Shortage in supply of vaccines:

The Universal Immunization Programme relies on a vast network of cold chain stores at various levels, including Government Medical Supply Depots (GMSD), State/ Regional/ Divisional Vaccine stores, District and CHC/ PHC vaccine storage locations. Furthermore, in some states, towns serve as a separate health administration system at the district level, and they have a cold chain system identical to the district level. Vaccines are available through the state, divisional, and district immunization programs stores and then reach to Community Health Centers (CHC) and primary Health Center (PHC) and then to recipients. (INCLIN, Trust International, 2020).

Previously, many vaccines on the recommended childhood routine immunization schedule were unavailable in India. Some of these shortages were widespread, while others were limited to a single location. Such shortages were caused by a variety of factors, including companies exiting the vaccine market, manufacturing or production issues, and insufficient stockpiles. As a result, some shortages were concentrated in a single manufacturer. The majority of required vaccine from the manufacturer or supplier is normally delivered straight to state and division stores (depending on the airport availability). A portion (approximately 20%) of the annual need is supplied to Government Medical Store Depots (GMSDs), where stock is kept for a maximum of three months. There are four GMSDs in India (Karnal, Chennai, Mumbai, and Kolkata) that service various states and union territories. Typically, the manufacturer/supplier directly supplies 80 percent of the annual vaccine need to state and/or divisional/regional vaccine storage in the states. The remaining 20% is provided to the GMSDs. Depending on the need; the vaccines from the GMSD are supplied to the state/ regional/ division stores. Because of the Covid 19 outbreak, there was a greater scarcity as a result of continuous lockdowns, restrictions on transportation and a greater emphasis on Covid-related work. Even after the supply was restored, there were still problems with service delivery.



While conducting the study all the health functionaries reported that they had shortage in supply of vaccines. The shortage was reported at many instances in supply chain management. The shortage of routine immunization vaccines ranges from one month to three months. This had not allowed the health functionaries to carry out routine immunization. Besides, accessibility and movement of health functionaries remained a major issue. Neither the beneficiaries nor other health functionaries were accessible during Covid 19. A fear of getting Covid 19 infection was a major cause for accessibility and movement of health functionaries. The grass root level health functionaries were supposed to mobilize the people for resumption of routine immunization. They often faced challenges like stigma of being infected by Covid 19.

**Health functionary 1:** There was shortage of supply of vaccines for almost a month then supply was resumed and we were back to work.

**Health functionary 2:** Working during this lockdown was not easy; we faced a lot of issues like poor accessibility, fear of getting infected, stigma, etc.

**Health functionary 3:** While visiting houses for vaccination; most of the times we were not allowed to enter the house.

**Health functionary 4:** *“It was very hectic for us to reach out to children for vaccination because there was no transport availability for us and people also were not willing to send their children to anganwadi centers for vaccination because of the fear of getting infected by virus”.*

**Health Functionary:** *While entering the gate I was told don't you have any other work, don't you know there is Covid.*

### 1.3 Delay in Dosage:

The Covid 19 outbreak put an unprecedented strain on our health-care system. The health facilities and workforce were preoccupied with a slew of virus-fighting activities, compromising essential health services provided to communities. Health seeking was postponed, which could be due to physical/social distancing requirements or a perception that health facilities were infected. To keep people's trust in the health-care system, it was critical to focus on Covid 19-related activities in addition to providing essential services in order to reduce mortality from other diseases (WHO, 2020).

The routine immunization got delayed due to various reasons. All the health functionaries have reported that they stopped the routine immunization services and its resumption was made within the range of 1 to 3 months. There were numerous reasons for the decrease in routine immunization during the pandemic. Parents' concerns about becoming infected with the COVID-19 virus while visiting a clinic, as well as restrictions on their movement due to lockdowns have had a significant impact on vaccination coverage. Due to their redeployment to COVID-19 response duties and a lack of personal protective equipment, health workers' availability for vaccination has been hampered. Delays in vaccine deliveries as a result of flight cancellations have exacerbated the situation (Saxena, 2020)

**Health Functionary 1:** *There was change in routine immunization since all children were provided the dosage after a month's gap. There is a specific time period for vaccination and that lasts for almost two to three months.*

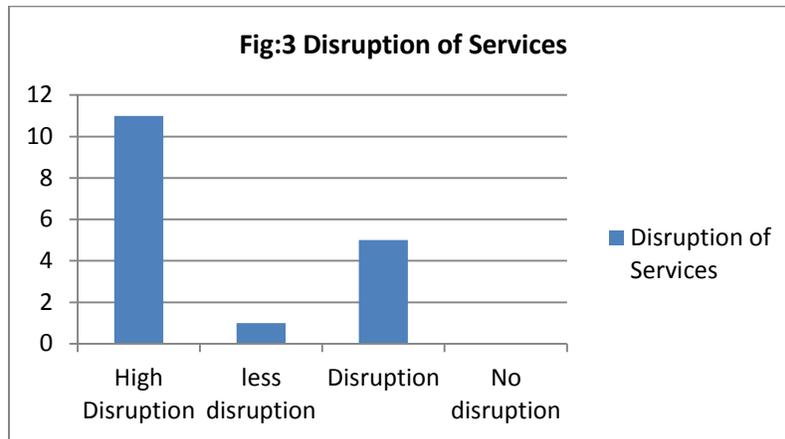
**Health functionary 2:** *I came across many children after resumption of routine immunization who had missed two dosages.*

**Health functionary 3:** *It is but natural that if one scheduled vaccination is delayed the entire schedule gets disrupted. Either you had to reduce the gap between two vaccination schedules or we have to schedule both vaccinations on one time.*

## 2. Perspective of Beneficiaries related to impact of Covid 19 pandemic on routine immunization schedules.

### 2.1 Disruption of Services

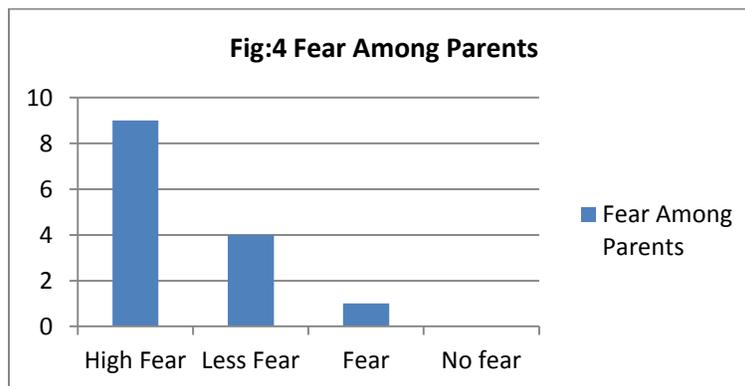
WHO reported major disruptions in immunization services during Covid 19 around the world and estimated that approximately 80 million children under age of 1 were living in countries where routine immunization services were disrupted and could potentially be at risk of developing a vaccine preventable illness (WHO, 2020).



Out of 16 respondents 11 said that there was high disruption of services. 5 were of the opinion that disruption occurred but it was compensated within a month.

### 2.1 Fear among Parents

The Covid 19 had created panic among masses. This panic can be seen in the form of fear of getting infected. The parents had fear that if they will visit immunization centers they may get infected. Thus the fear was emancipating from the stigma that all health functionaries are active carriers of Covid 19. Despite the fact that routine immunization was halted for a period of one to three months. The fear made parents delay their routine immunizations further. Out of 16 respondents all said that they felt fearful in taking their children to centers/sub centers for routine universal immunization. 11 felt highly fearful whereas 3 felt less fearful and they took their children to sub centers during the period.



**Beneficiary 1:** I was worried about my child as she missed the vaccination and the virus added more panic. Even after the resumption of routine immunization, I was in dilemma whether to go health center or not.

**Beneficiary 2:** We were so much worried due to the delay in vaccination and when it was done after a month we were a bit relieved but then we were still in doubt whether we may have come in contact with Covid 19 carriers.

**Beneficiary 3:** I had taken my son for immunization to health centre, once he was inoculated, we did bath to him and changed his all clothes. I was trying to be sensitive towards touch.

***Beneficiary 4:** I felt it is better to defer routine immunization instead of visiting vulnerable place (health center). We wanted to get our children vaccinated but due to the fear of virus we preferred to not go outside.*

**Conclusion:**

When the COVID-19 pandemic broke out, it impacted every part of life, including children's routine universal immunization. Routine universal immunization is critical for every kid's safety and survival, as it is thought to be a crucial factor in lowering the child death rate. Most routine universal vaccination actions in the entire country came to a standstill for a brief while due to the concept of isolation and a lack of study on COVID-19 transmission. The UT of J&K was no exception. It also saw a suspension in immunization services and later, a postponement of the complete vaccine schedule. The disruption of services related to immunization is largely owing to the stoppage or alteration of the supply chain management system of various vaccines. It was also the shortage of vaccines that created the disruption. The delay in routine immunization was yet another disruption. The delay in services was also due to the switching of existing services of health functionaries, wherein most of them were placed in COVID response teams. Apart from this, the limitation on disruption was created by health functionaries or the health department itself. This reluctance on the part of beneficiaries has added to this disruption. Most of the parents/beneficiaries felt a state of disruption in routine universal immunization services. The reluctance on the part of beneficiaries was owing to the fear factor of the COVID-19 pandemic. The fear psychosis has led the beneficiaries into a dilemma wherein they feel whether to go for routine universal immunization or not. Many people believed that the COVID-19 restriction was one of the reasons for the delay in routine vaccine inoculation. The beneficiary only started to give routine universal immunization with the easing of the COVID 19 restriction. So, it was felt that the ease of restriction was directly linked with the resumption of routine immunization services.

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