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## The Effect of COVID-19 Lockdown on Utilization of Health Care Services among Mothers Attending Well-Baby Clinic at CHC, Karikalampakkam, Puducherry



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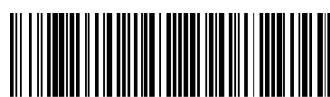
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### ABSTRACT

**Aim:** Many women and children facing barriers to accessing health services, even before the COVID-19 pandemic began, maternal and child health is one of the Indian government's priorities have been implementing family planning, ante-natal assistance, maternity delivery, children monitoring, and vaccination programs. The aim was to assess the effect of COVID-19 lockdown on the utilization of Health care services among mothers attending the well-baby clinic at CHC, Karikalampakkam, Puducherry.

**Materials & Methods:** A Cross sectional research, the design was used, and the sample of 260 mothers by using Purposive sampling. A semi-structured questionnaire was used with demographic and obstetric variables and an interview schedule on the effect of Covid -19 lockdown on antenatal, intranatal, postnatal, newborn, and reproductive health services. Descriptive and inferential statistics were used to analyze the data. **Results:** Out of 260 mothers, 95% had low, 15% of mothers had a medium level of overall the effect of COVID-19 lockdown on utilization of Health care services. There was a statistical association between parity and Intranatal care services,  $p < 0.05$ . And also There was a statistical association between type of family and Residence and postnatal care service,  $p < 0.05$ . **Conclusion:** there was a moderate to low effect of COVID-19 lockdown on utilization of Health care services among mothers. **Clinical Significance:** Access and utilization of basic MCH services were considerably affected during the COVID-19 outbreak. For reductions in MCH service utilization to be reversed, targeted resources and active promotion of ANC, institutional deliveries, and vaccinations need to be prioritized.



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## INTRODUCTION

COVID-19 pandemic and its devastating impact on the health systems, livelihood, and economies of Nations have been likened to a “war” situation. The health of the mother and child constitutes one of the most serious health problems affecting the community, particularly in developing countries.<sup>1</sup>

Impacts can range from affecting livelihoods, increasing morbidity and mortality, overwhelming health systems, and triggering lasting geopolitical change.<sup>2</sup>

Many women and children in India faced barriers to accessing health services, even before the COVID-19 pandemic began, and maternal and child health (MCH) is one of the Indian government priorities, that has been implementing family planning, ante-natal assistance, maternity delivery, children monitoring and vaccination programs. These target groups have high morbidity and mortality rates, far from the Sustainable Development Goals, and might be now at higher risk with the response to Covid-19.<sup>3</sup>

During the COVID-19 pandemic, a national ‘lockdown’ was declared in India and as a result, all non-essential travel and contact with other individuals other a person’s home environment were banned. Significant changes were also implanted in the hospital and these included, social distancing measures, delay of non-essential surgery, and major changes in the way primary and secondary care services were delivered. In maternity care, many antenatal contacts occurred virtually, restrictions were imposed on birthing partners being there and clinicians had to use suitable personal protective equipment as appropriate.<sup>4</sup>

To mitigate the devastating effects of this virus, varying levels of ‘stayat home’ orders have been implemented around the world. India had announced a complete nationwide lockdown for 21 days, limiting the movement of 1.3 billion populations from midnight on 24 March.<sup>5</sup>

But this sudden lockdown has led to unprecedented adversities for several vulnerable groups, including Sexual, Reproductive, Maternal, Newborn, Child, and Adolescent Health. There are a few factors that are affecting maternal mental health during this pandemic.<sup>6</sup>

While MCH programs are weighed down by wide inequities these challenges have been amplified by the ongoing COVID-19 pandemic. In addition to the direct effects of the disease, the indirect effects of the pandemic have been devastating. Limitations in the availability of skilled health workers and health system access barriers have led to lower coverage of antenatal and postnatal care services, and routine childhood immunization services, especially in rural India.<sup>7</sup>

Due to this reason, this study tried to assess the effect of COVID-19 lockdown on the utilization of Health care services among mothers attending a well-baby clinic at CHC, Karikalampakkam, Puducherry. The objectives are to assess the effect of COVID-19 lockdown on the utilization of Health Care Services among mothers and to associate the level of effect of COVID-19 lockdown with their selected demographic and obstetrical variables.

## **MATERIALS AND METHODS**

**Design:** A Cross-sectional research design was adopted for the present study. **Sample:** A sample of 260 mothers who were attending a well-baby clinic at CHC, Karikalampakkam, Puducherry. A purposive sampling technique was used to select the sample. A semi-structured questionnaire was used with demographic and obstetric variables and an interview schedule on the effect of Covid -19 lockdown on Antenatal, Intranatal, Postnatal, Newborn, and Reproductive Health Services.

**Procedure:** Ethical committee clearance was obtained from Institutional Ethical Committee. The data were collected after getting formal permission from the authorities and study participants from the mothers. Privacy and confidentiality were maintained, and written consent was obtained from each mother before data collection. The mothers who were willing to share their experiences were selected. The data were collected for 4 weeks. Effect of COVID-19 lockdown on utilization of Health care services data was collected through a semi-structured interview schedule. It took approximately 10 to 15 minutes for each mother. Data were collected as per the availability of the mothers and an average of 45 to 50 mothers were selected per week. The data were analyzed using SPSS version 19.0 based on the objectives of the study using Descriptive statistics as frequency, percentage distribution, mean, and standard deviation were used for

demographical variables, and Inferential statistics as chi-square test was used for associate-level the utilization of Health care services with their selected demographic and obstetrical variables.

**RESULTS**

**Table-1: Frequency and percentage-wise distribution of demographic and obstetrics variables among mothers attending a well-baby clinic.**

Sl.NO	Demographic & obstetrics Variables	Frequency (n)Percentage (%)
<b>1</b>	<b>Age of mothers (in years)</b>	
	18-22 years	40 (15.4%)
	23-26 years	120 (46.2%)
	27-30 years	60 (23.1%)
	>30 years and above	40 (15.3%)
<b>2</b>	<b>Religion</b>	
	Hindu	229 (88.1%)
	Christian	8 (3.1%)
	Muslim	3 (8.8%)
<b>3</b>	<b>Type of family</b>	
	Nuclear	66 (25.4%)
	Extended/ joint	194 (74.6%)
<b>4</b>	<b>Educational status of postnatal mother</b>	
	No formal schooling	4 (1.5%)
	Primary	8 (3.1%)
	High school	88 (33.8%)
	College education	160 (61.6%)
<b>5</b>	<b>Monthly income</b>	
	2001 to 4000	34 (13.1%)
	4001 to 6000	82 (31.5%)
	6001 and above	144 (55.4%)
<b>6</b>	<b>Residence</b>	
	Urban	258 (99.2%)

	Rural	2 (0.8%)
<b>7</b>	<b>Occupational status of husband</b>	
	Coolie	37 (14.2%)
	Agriculture	51 (19.6%)
	Business	60 (23.1%)
	Employee	112 (43.1%)
<b>8</b>	<b>Dietary pattern</b>	
	Vegetarian	0 (0%)
	Non vegetarian	260 (100%)
<b>9</b>	<b>Gravida</b>	
	Primigravida	157 (60.4%)
	Second gravida	95 (36.5%)
	Multi gravida	8 (3.1%)
<b>10</b>	<b>Parity</b>	
	1	157 (60.4%)
	2	83 (31.9%)
	3	20 (7.7%)
<b>11</b>	<b>Nature of pregnancy</b>	
	Planned	194 (74.6%)
	Unplanned	66(25.4%)
<b>12</b>	<b>Mode of delivery</b>	
	Cesarean delivery	102 (39.2%)
	Spontaneous vaginal delivery	158 (60.8%)
<b>13</b>	<b>Birth outcome</b>	
	Live baby	260 (100%)
	Abortion	0 (0%)
<b>14</b>	<b>Sex of the baby</b>	
	Male	135 (51.9%)
	Female	125 (48.1%)

**Table 2: Mean and standard deviation of the effect of Covid-19 lockdown on utilization of Health care services among mothers**

Effect of Covid-19 lockdown on utilization of Health care services among mothers	Mean	Standard deviation
Antenatal care services	8.71	0.6451
Intranatal care services	8.788	0.6131
Postnatal care service	11.79	2.088
Newborn care services	3.023	0.174
Reproductive health care services	4.061	0.256

**Table 3: Level of the effect of covid-19 lockdown on utilization of health care services among mothers attending the well-baby clinic**

EFFECT OF COVID-19 LOCKDOWN ON UTILIZATION OF HEALTH CARE SERVICES	FREQUENCY(n) PERCENTAGE(%)
<b>Antenatal care services</b>	
Low (1-10)	252 (96.9%)
Medium (11-20)	8 (3.1%)
High (21-29)	0 (0%)
<b>Intranatal care services</b>	
Low (1-9)	237 (91.2%)
Medium (10-18)	23(8.8%)
High (19-28)	0 (0%)
<b>Postnatal care services</b>	
Low (1-18)	247 (95%)
Medium (19-36)	13 (5%)
High (37-54)	0 (0%)

<b>Newborn care services</b>	
Low (1-3)	253 (97.3%)
Medium (4-6)	7 (2.7%)
High (7-10)	0 (0%)
<b>Reproductive health care services</b>	
Low (1-5)	245 (94.2%)
Medium(6-10)	15 (5.8%)
High (11-14)	0 (0%)

**Table 4: Frequency and percentage-wise distribution of overall level of effect of COVID-19 lockdown on utilization of Health care services among mothers attending a well-baby clinic**

<b>The overall level of Effect of COVID-19 lockdown on utilization of Health care services among mothers</b>	<b>FREQUENCY (n)</b>	<b>PERCENTAGE (%)</b>
<b>Low (0-44)</b>	247	95
<b>Medium (45-88)</b>	13	5
<b>High (89-133)</b>	0	0

## DISCUSSION

The study finding was discussed based on the following objectives. The percentage distribution of demographic variables of the study, Out of 260 mothers were interviewed, Majority 46.2% were aged between 23-26 years, 88.1% were Hindus, and 74.6% belonged to extended /joint families. 61.6% had college, 55.4% had an income of Rs.6001 and above, 99.2% belonged to an urban area, 43.1% were employees, and 100% were nonvegetarian. 60.4% were primigravida, 60.4% were parity 1, 74.6% had planned pregnancy, 60.8% had a spontaneous vaginal delivery, 100% were live babies, 51.9% babies were males and 48.1% babies were females. **Table 1** the supportive results were found by ErkihunTadesse (2020) which showed that 55.3% were in the age group of 25–34 years.<sup>8</sup>



The first objective of the study is to assess the effect of covid-19 lockdown on the utilization of Health care services among mothers. The mean effect of COVID-19 lockdown on Antenatal care services was  $8.71 \pm 0.64$ , for Intranatal care services was  $8.78 \pm 0.61$ , for postnatal care services was  $11.79 \pm 2.0$ , for Newborn care services was  $3.02 \pm 0.17$  and Reproductive health care services were  $4.1 \pm 0.25$ . **Table 2** Around 96.9% had a low, 3.1% had a medium level of effect of covid-19 lockdown on antenatal care services. 91.2% had a low, and 11.5% had a medium level of effect of covid-19 lockdown on intranatal care services. 95% had a low, and 5% had a medium level of effect of covid-19 lockdown on postnatal care service. 97.3% had a low, and 2.7% had a medium level of effect of covid-19 lockdown on Newborn care services. 94.2% had a low, and 5.8% had a medium-level effect of covid-19 lockdown on reproductive health care services. **Table 3** Most of the mothers 95% had a low level, and 15% of mothers had a medium overall level of effect of COVID-19 lockdown on utilization of Health care services among mothers. **Table 4** The supportive results were found by Kababa Temesgen, et al (2021) who showed that the maternal health service utilization during the COVID-19 pandemic was 64.8%.<sup>9</sup> the other supportive results were found by Vinaya k Smith, et al (2020) who showed that only one patient required intensive care and 76.92% of neonates required NICU admission.<sup>10</sup>

The second objective is based on associating the level of effect of COVID-19 lockdown on utilization of Health care services with their selected demographic and obstetrical variables. The demographic variables parity had shown a statistical association between the level of effect of COVID-19 lockdown on Intranatal care services with a chi-square value of ( $\chi^2=7.918$ , d.f=2) at  $p<0.05$  level. The demographic variable's type of family and Residence had shown a statistical association between the level of effect of COVID-19 lockdown on postnatal care service with chi-square values of ( $\chi^2=11.23$ , d.f=3) and ( $\chi^2=8.592$ , d.f=1) at  $p<0.05$  level. The supportive results were found by D.Wanyana, R.Wong, and D. Hakizimana (2021) who showed that during the COVID-19 outbreak in Rwanda, the utilization of 15 MCH services in all four categories - antenatal care, deliveries, postnatal care, and vaccinations - significantly declined. Kigali was the only province with a significant increase in the fourth PNC visits for babies and mothers, while the Southern Province showed a significant increase in the utilization of measles and rubella vaccination.<sup>11</sup>



## CONCLUSION

Access and utilization of basic MCH services were considerably affected during the COVID-19 outbreak. For the reductions in MCH service utilization to be reversed, targeted resources and active promotion of ANC, institutional deliveries, and vaccinations need to be prioritized. Further studies on long-term impact and geographical variations are needed. The researcher found that there was a moderate to low impact of a pandemic on the utilization of MCH and Reproductive Health services among mothers.

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