

TRACKING OF
**COVID-19 POSITIVE
PREGNANT WOMEN IN SRI LANKA**
AN INTERIM REPORT



FAMILY HEALTH BUREAU
MINISTRY OF HEALTH, SRI LANKA
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AN INTERIM REPORT

Family Health Bureau
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SUMMARY

This is an interim report of ongoing tracking of COVID-19 positive pregnant women by the Family Health Bureau, Ministry of Health, Sri Lanka.

An electronic system to capture all COVID-19 positive pregnant women was introduced on 1st of June 2021. Following one month of initiation of the online database, an analysis was carried out to identify the basic characteristics of the COVID-19 positive pregnant women in Sri Lanka, severity of the illness, their pregnancy outcome and impact on the newborn.

Tracking of these pregnant women will be continued and more detailed analysis will be presented in future.

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1. INTRODUCTION

Family Health Bureau, as the national focal point for Maternal and Child Health in the Ministry of Health recognizes the importance of having accurate, timely information for planning and implementation of responsive health services during the challenging pandemic situation.

An online tracker information system was developed by the Monitoring and Evaluation Unit of the Family Health Bureau to collect information and report all instances of pregnant women who become COVID-19 positive.

Aims of establishing this information system were to understand the features of SARS-CoV-2 infection during pregnancy and the impact of COVID-19 positivity on the newborn and during early infancy.

It has been noticed that the number of COVID-19 positive pregnant women was rising during the 3rd wave of the pandemic that commenced after April 2021. On 1st of June 2021, all Medical Officers of Health [MOOH] were given instructions to report pregnant women who become COVID-19 positive in their respective areas. They were instructed to report all COVID-19 positive pregnant women who were diagnosed from March 2020 onwards. Public Health Midwife [PHM] was required to complete a form at the time of a pregnant woman being diagnosed as COVID-19 positive and she was expected to follow her up to see the severity of the illness and outcome of the pregnancy after 14 days of diagnosis. Information pertaining to the deliveries of such patients and the effect of the illness on the newborn were required to be reported at the end of first month of the delivery i.e. during the first postnatal clinic and then at 6 months of age of the infant on any significant growth or development delay.

Data collected includes the following:

- Basic demographic characteristics of the COVID-19 positive pregnant women
- Timing of infection during pregnancy
- Severity of COVID-19 disease
- Outcome of the pregnancy
- Newborn's details including whether the newborn was also diagnosed with COVID-19
- Selected infant outcomes at the end of first 6 months of age

For reporting of data, DHIS 2 based an online tracker capture system was developed in the electronic Reproductive Health Management Information System [eRHMS]. eRHMS is the routine information system for monitoring the national programme of Reproductive, Maternal, Newborn, Child, Adolescent and Youth Health [RMNCAYH] Programme in the country.

All 26 health districts in the country responded rapidly in collecting and reporting data and within a period of one month all information were entered into the online system by MOH teams at MOH levels under the supervision of the district MCH teams.

Such community based findings will be used to improve the services for pregnant women who become COVID-19 positive in community as well as in institutions. The information would improve the public health response in supporting COVID-19 positive pregnant women, postpartum women and their infants during this challenging pandemic situation.

2. BASIC CHARACTERISTICS OF THE COVID-19 POSITIVE PREGNANT WOMEN IN SRI LANKA

2.1 Geographic Distribution

A total of **1938** COVID-19 positive pregnant women were reported by the MOOH from March 2020 till 30th of June 2021. Number of COVID-19 positive pregnant women increased dramatically with the 3rd wave from April 2021. In year 2021, 1837 cases were reported from all 26 health districts. Based on the service delivery organizational structure, the Colombo Municipal Council area (CMC) in Colombo district and the National Institute of Health Science (NIHS) area in Kalutara district were considered as separate units in the analyses.

Table 2.1: COVID-19 positive pregnant women reported by districts from March 2020 till 30th June 2021

DISTRICT	2020	2021
Kalutara	8	184
Gampaha	11	172
Kurunegala	2	141
Colombo	5	115
Kandy	7	108
Trincomalee	1	101
Galle	1	99
CMC	40	89
Batticaloa		79
Ratnapura	5	72
Puttalam	2	71
Badulla		67
Kegalle	1	62
Matara	3	61
NIHS	3	57
NuwaraEliya	3	49
Moneragala		45
Jaffna		43
Matale	1	42
Anuradhapura	2	32
Hambantota		32
Polonnaruwa		29
Kalmunai	5	29
Ampara	1	16
Vavuniya		14
Kilinochchi		12
Mullaitivu		8
Mannar		8
Sri Lanka	101	1837

In the first 6 months of 2021, majority of COVID-19 positive pregnant women were reported from Kalutara district followed by Gampaha and Kurunegala districts. Lowest reported was from Mullativu and Mannar districts.

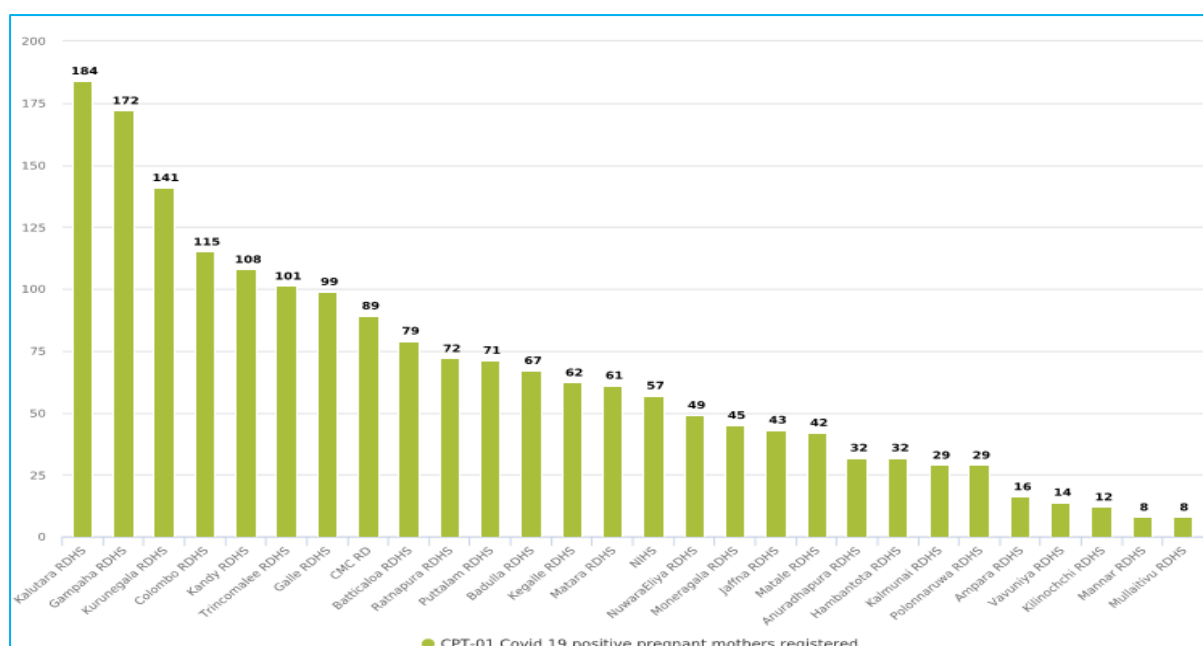


Figure 2.1: Number of COVID-19 positive pregnant women reported in 2021 by district

2.2 COVID-19 positive pregnant women reported by month

Number of cases reported increased dramatically during the months of May and June 2021 during the 3rd wave experienced following the Sinhala and Tamil New Year celebrations in the country.

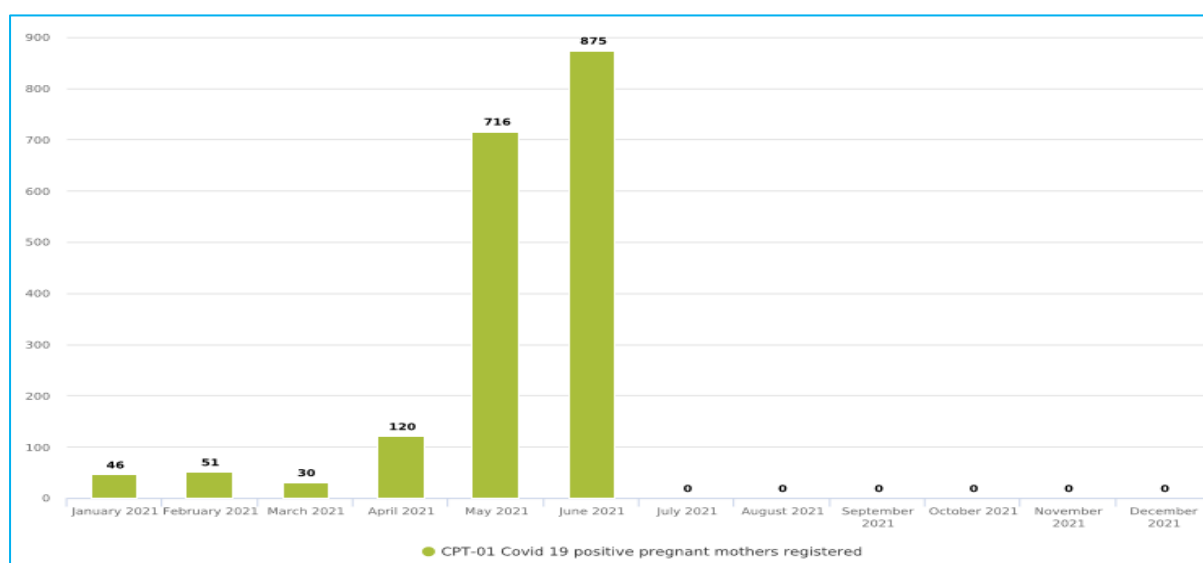


Figure 2.2: Number of COVID-19 positive pregnant women reported by month in 2021

2.3 Pregnant women with COVID-19 by ethnicity

Majority [69.5%] were Sinhala followed by Tamil [16.1%] and Muslim [14.6%] ethnicities. Any difference in infectivity based on ethnicity cannot be inferred from these findings even though the ethnic composition [Sinhala 74.9%, Tamil 15.3%, Muslim 9.7%] is slightly different in the findings.

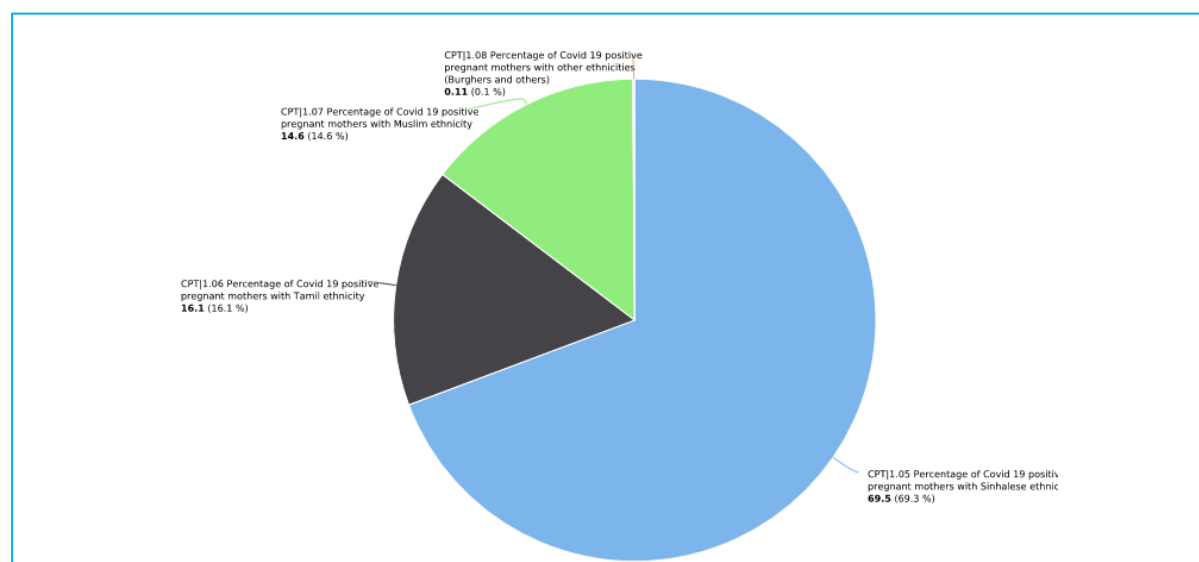


Figure 2.3: Percentage of COVID-19 positive pregnant women by ethnicity

2.4 Pregnant women with COVID-19 by age distribution

Majority [34.4%] of COVID-19 positive pregnant women were within age group of 25-29 years, whereas 4.2% were less than 20 years and 4.6% more than 40 years of age.

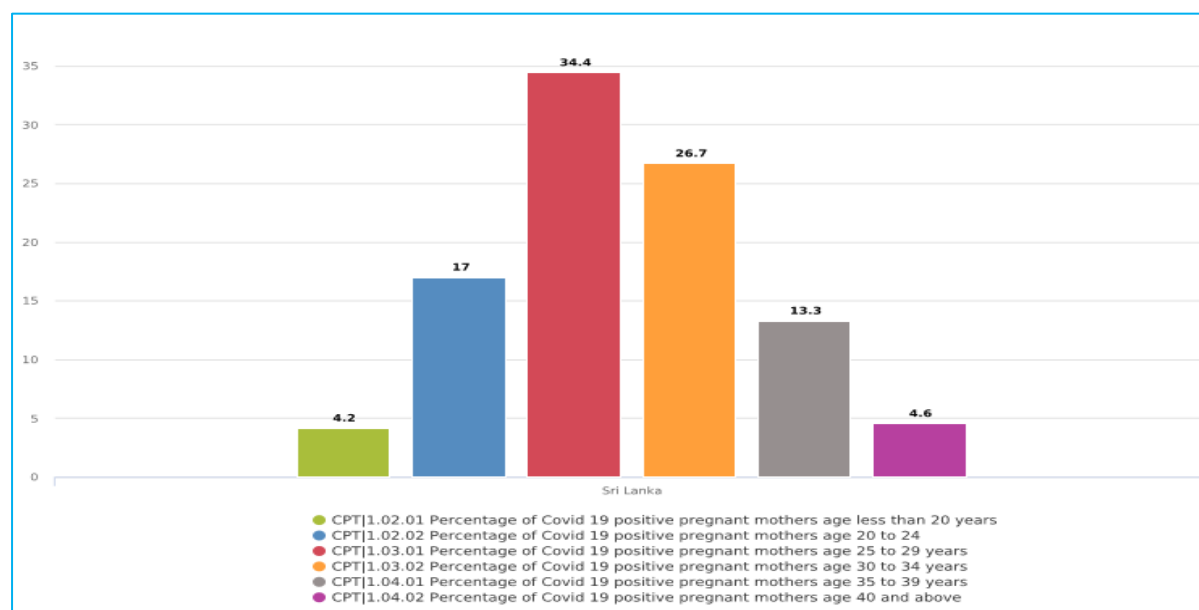


Figure 2.4: Percentage of COVID-19 positive pregnant women by age group

2.5 COVID-19 positive pregnant women by employment in 2021

Out of the COVID-19 positive pregnant women reported in 2021, majority [61.4%] were unemployed.

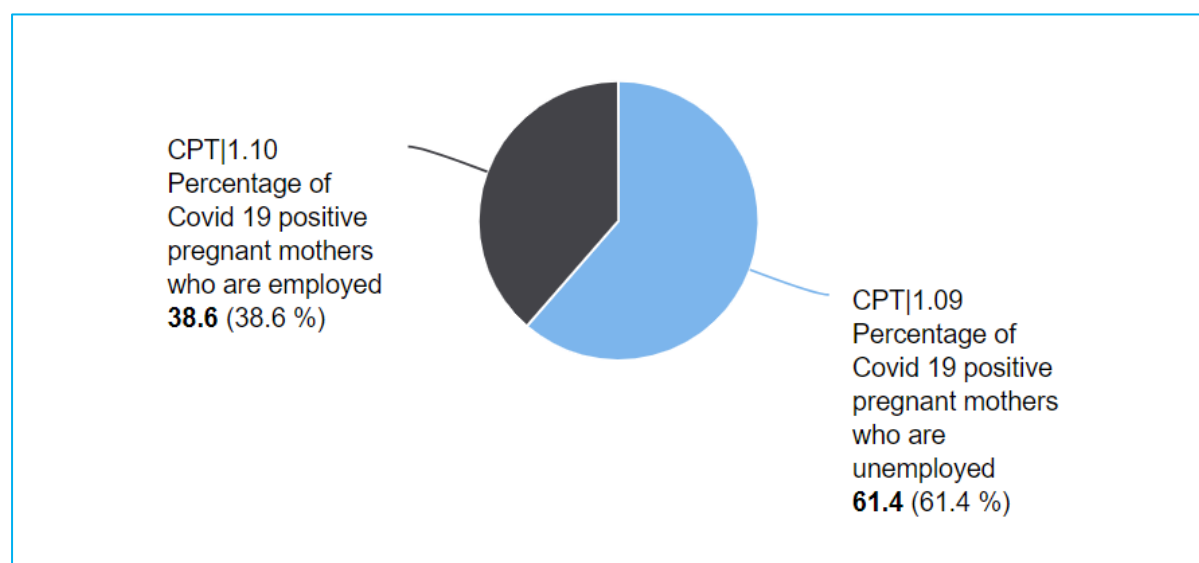


Figure 2.5: Percentage of COVID-19 positive pregnant women by employment

2.6 COVID-19 positive pregnant women by their monthly family income levels

Nearly 75% of these COVID-19 positive pregnant women had a monthly family income less than Rs. 45,000 which is the median household income per month reported by the Central Bank of Sri Lanka. Twenty-two percent [22%] were below the poverty line having a household monthly income less than Rs. 16,000.

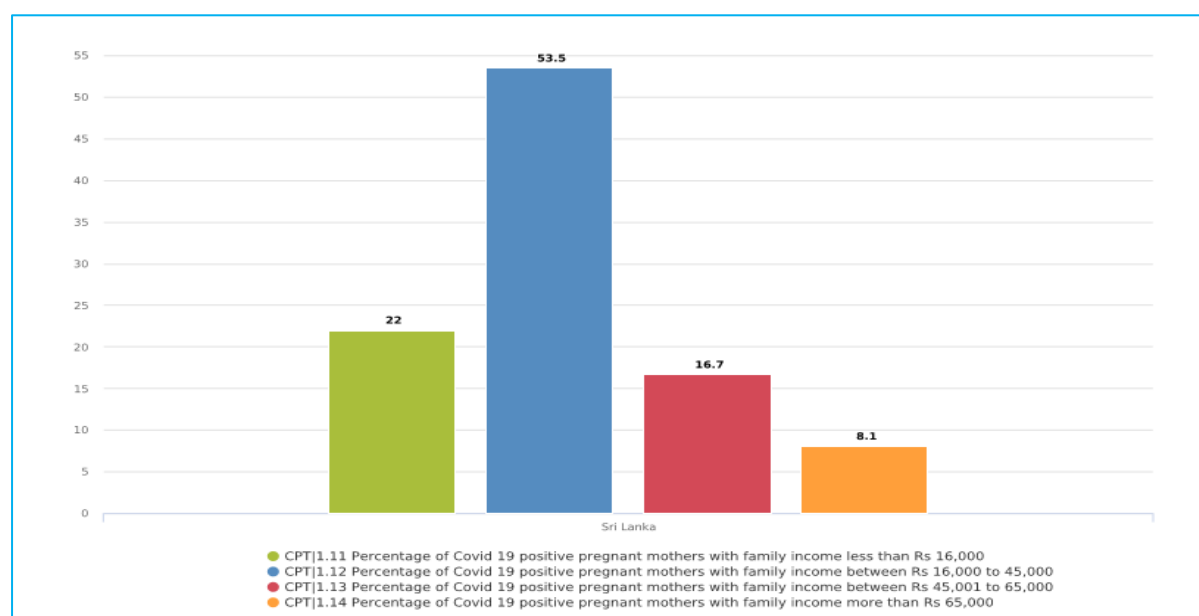


Figure 2.6: Percentage of COVID-19 positive pregnant women by monthly family income

2.7 COVID-19 positive pregnant women by sector in 2021

Majority [75.6%] of the COVID-19 positive women were from rural community whereas 20.1% were from the urban sector and 4.5% were from estate sector. This distribution is more or less compatible with the national statistics of urban 18.2%, rural 77.4% and estate 4.4% sector distributions.

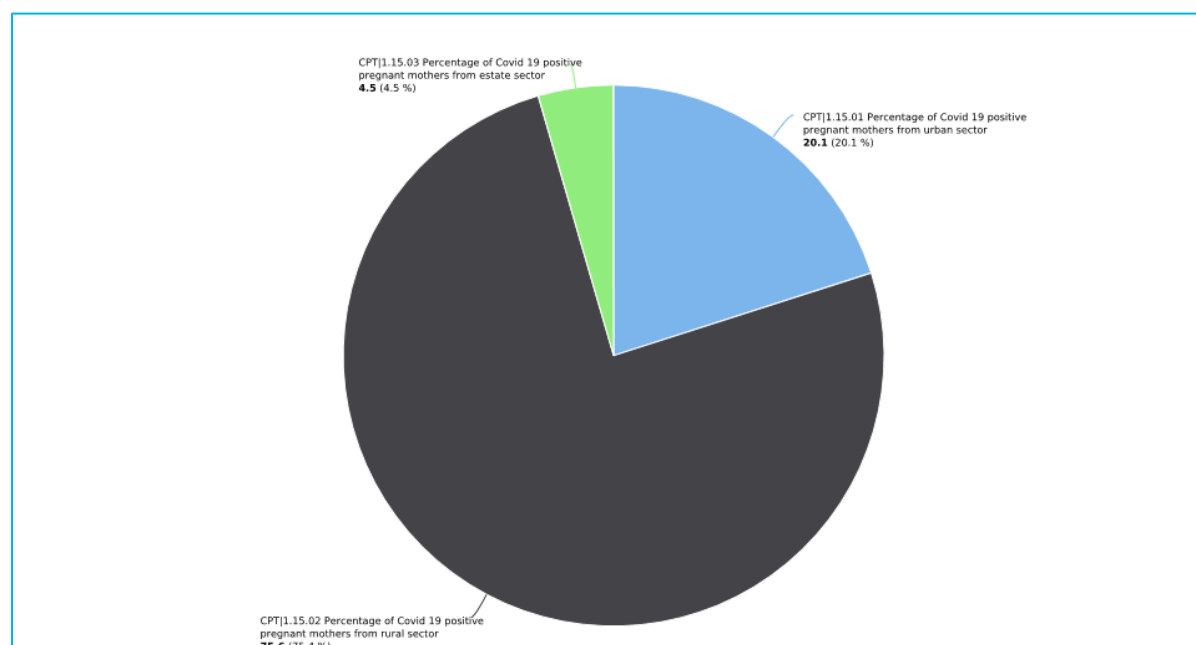


Figure 2.7: Percentage of COVID-19 positive pregnant women by sector

2.8 COVID-19 positive pregnant women by gravida in 2021

Out of COVID-19 positive pregnant women registered in 2021, 38.3% were primigravida and 61.7% were multigravida pregnancies. Three percent [3%] of the pregnant women were grand multigravidas.

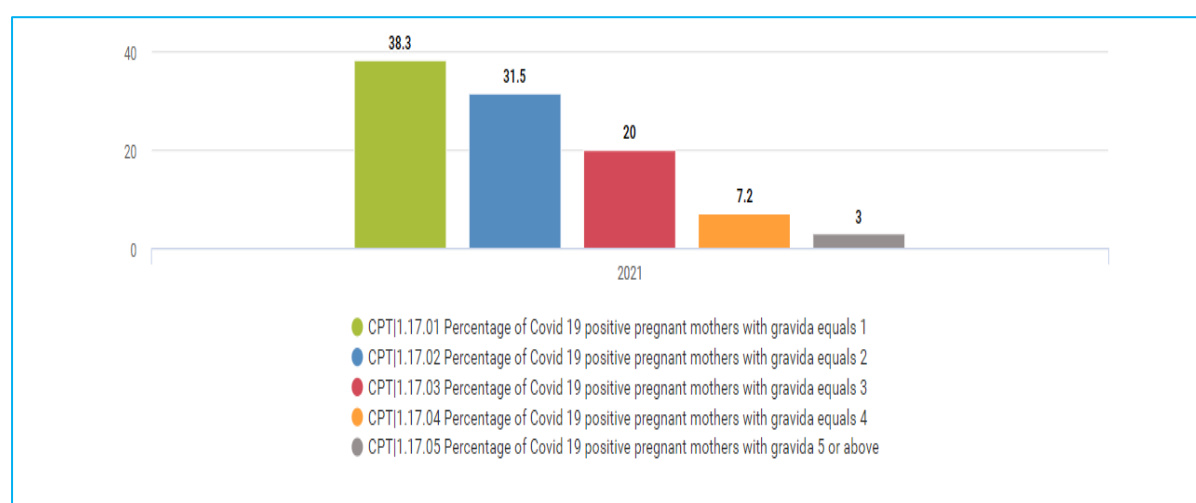


Figure 2.8: Percentage of COVID-19 positive pregnant women by gravida

2.9 COVID-19 positive pregnant women by Body Mass Index (BMI)

Out of COVID-19 positive pregnant women registered in 2021, majority 54.1% were having a normal BMI between 18kg/m² to 25kg/m². Nearly one third of the women were overweight having a BMI more than 25kg/m².

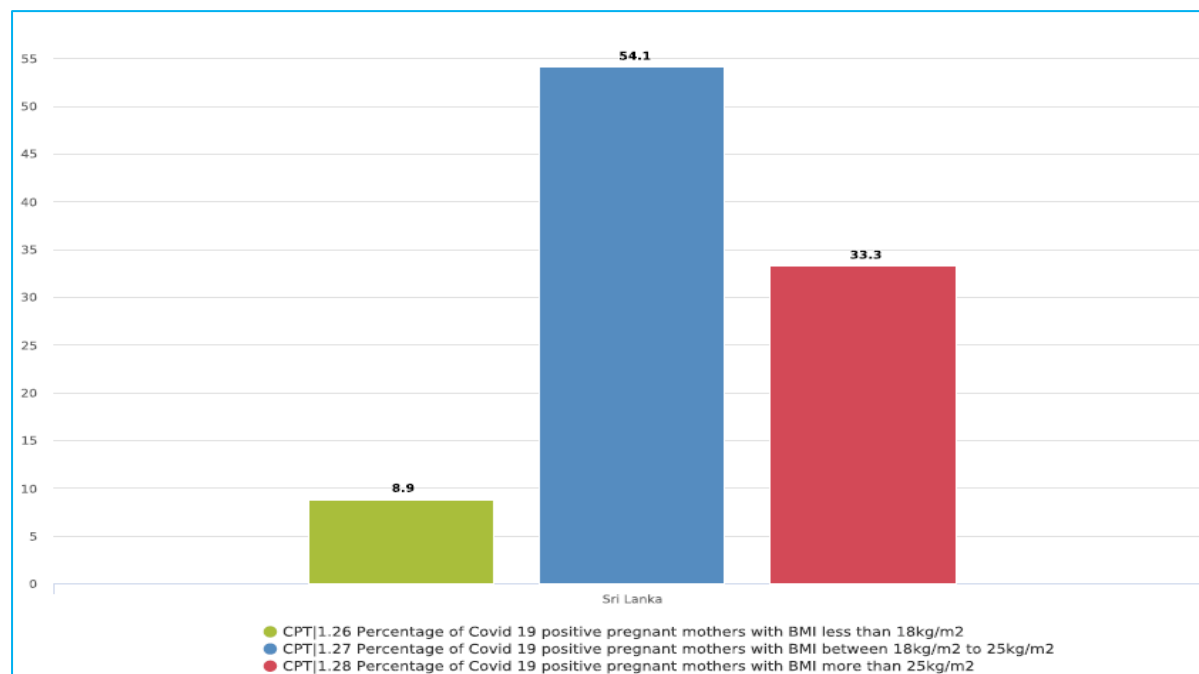


Figure 2.9: Percentage of COVID-19 positive pregnant women by Body Mass Index

2.10 COVID-19 diagnosis by the type of test

Of the COVID-19 positive pregnant women registered in 2021, 61.4% of were diagnosed with a PCR test, while 34.6% were based on a Rapid Antigen Test (RAT) and in 4% of women both tests were being carried out.

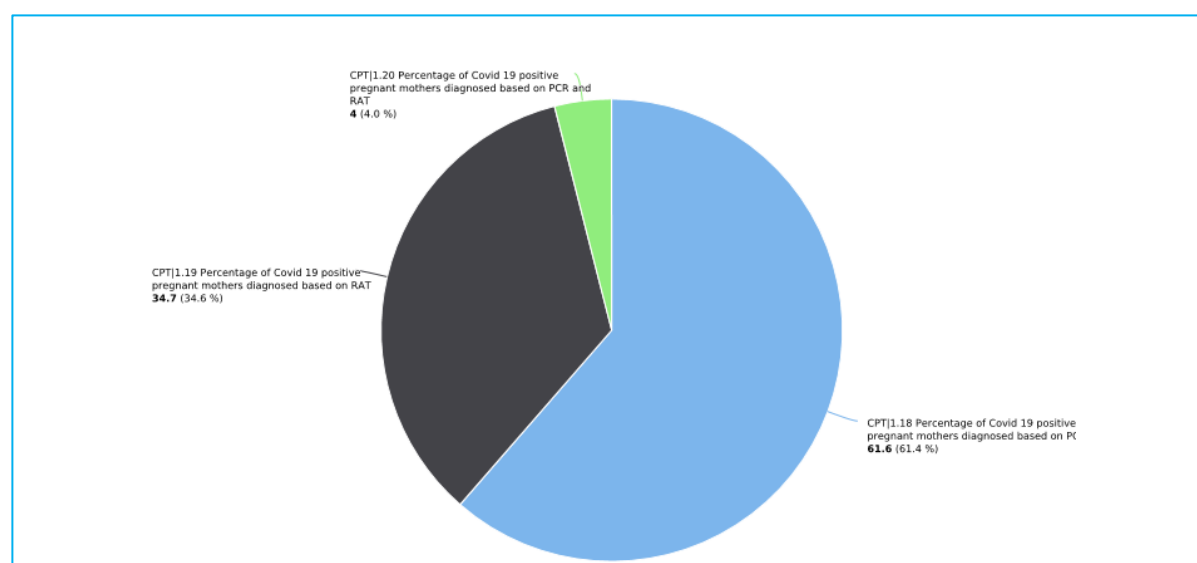


Figure 2.10: Percentage of COVID-19 positive pregnant women based on tests by which COVID-19 infection was diagnosed

2.11 Symptoms at diagnosis

Of the 1837 COVID-19 positive pregnant women registered in 2021, majority [51.5%] were asymptomatic at the time of diagnosis.

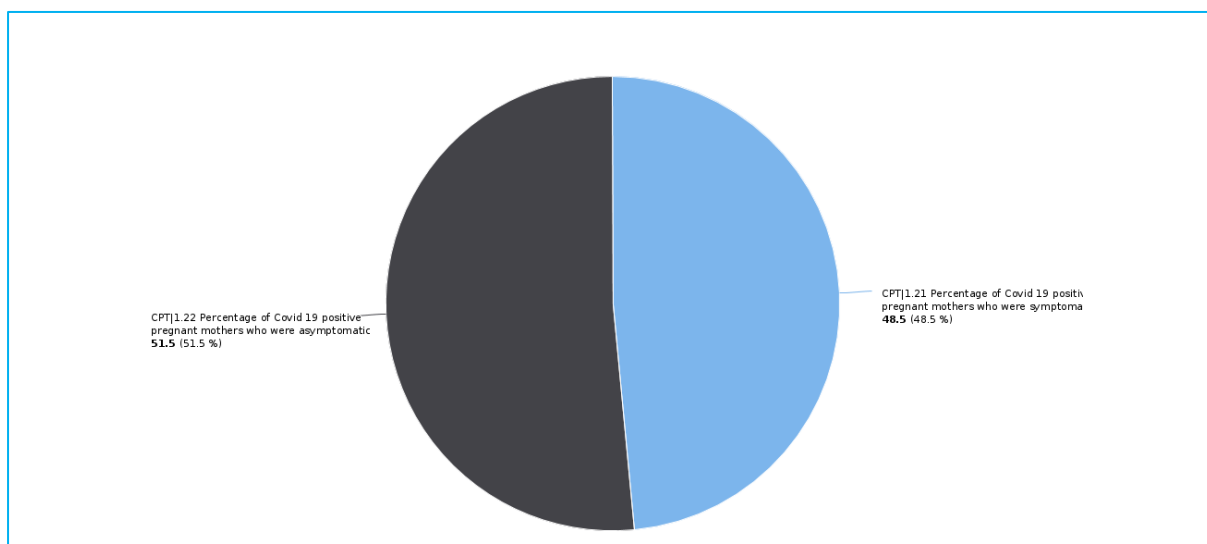


Figure 2.11: Percentage of COVID-19 positive pregnant women symptoms by diagnosis

2.12 POA at diagnosis

Out of the 1837 COVID-19 positive pregnant women registered in 2021, majority [48.5%] were diagnosed at the third trimester.

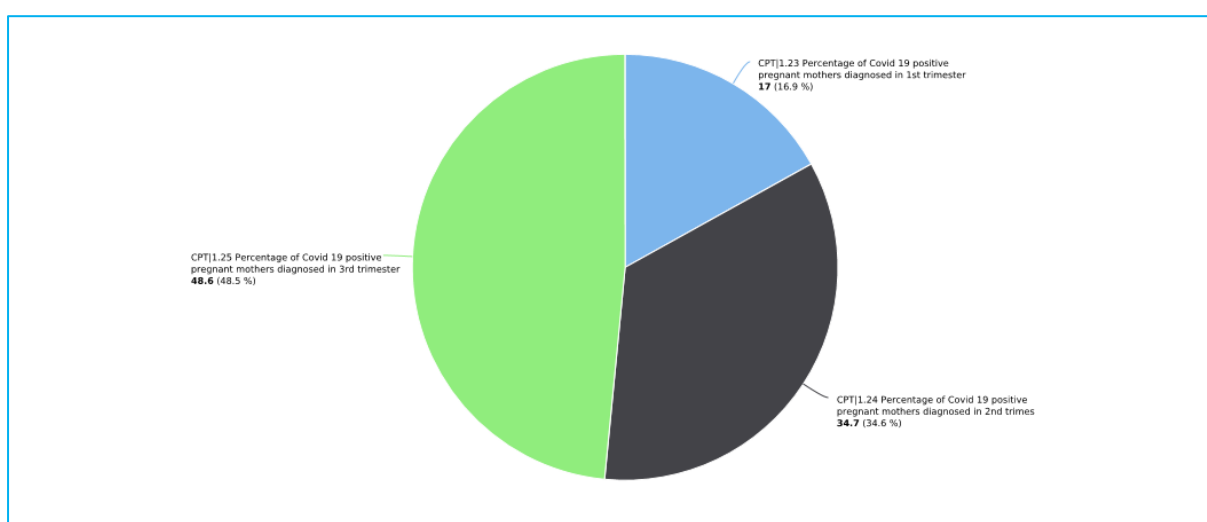


Figure 2.12: COVID-19 positive pregnant women by the POA at the time of diagnosis of COVID-19

2.13 Vaccination status at the time of diagnosis

Vaccination for COVID-19 in Sri Lanka commenced in February 2021 and initially it was given only to the high risk exposure groups. Among the COVID-19 positive pregnant women registered, it was reported that 12 were already vaccinated with 1 dose at diagnosis and 1 had received both doses of COVID-19 vaccination.

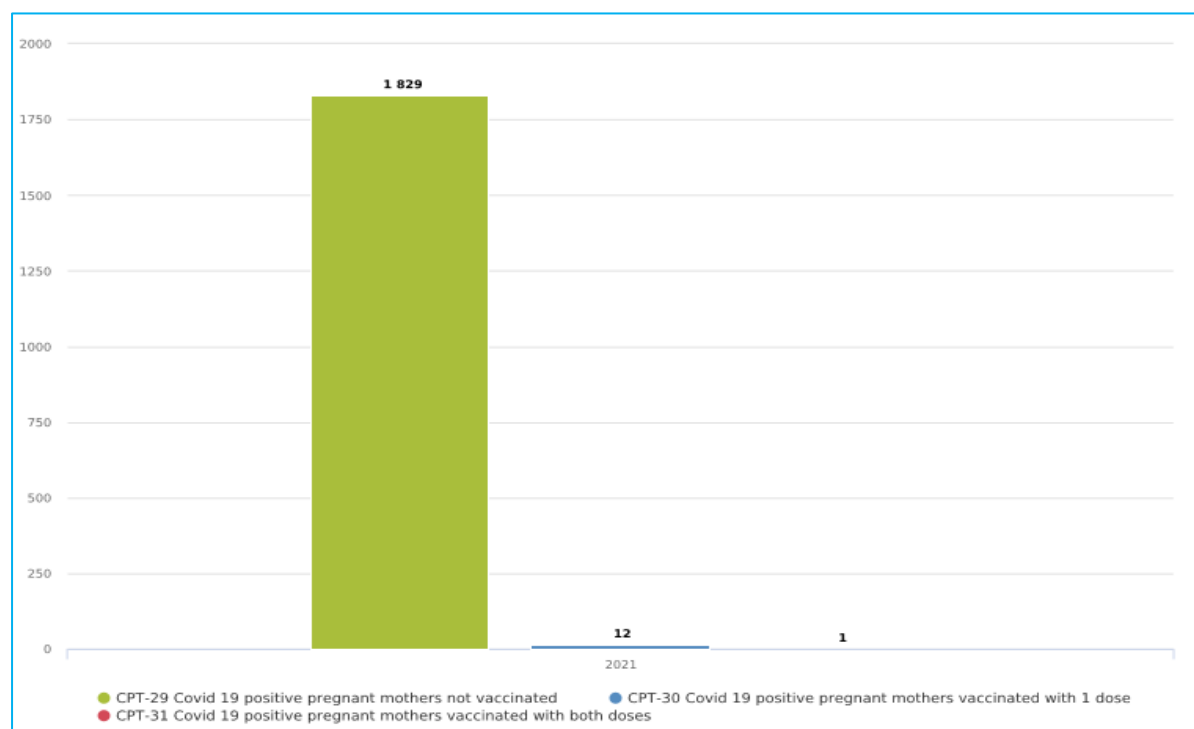


Figure 2.13: Number of COVID-19 positive pregnant women by vaccination status

2.14 Pregnancy associated comorbidities

Among the comorbidities reported among the COVID-19 positive pregnant women, Anaemia was found to be common [9.5%].

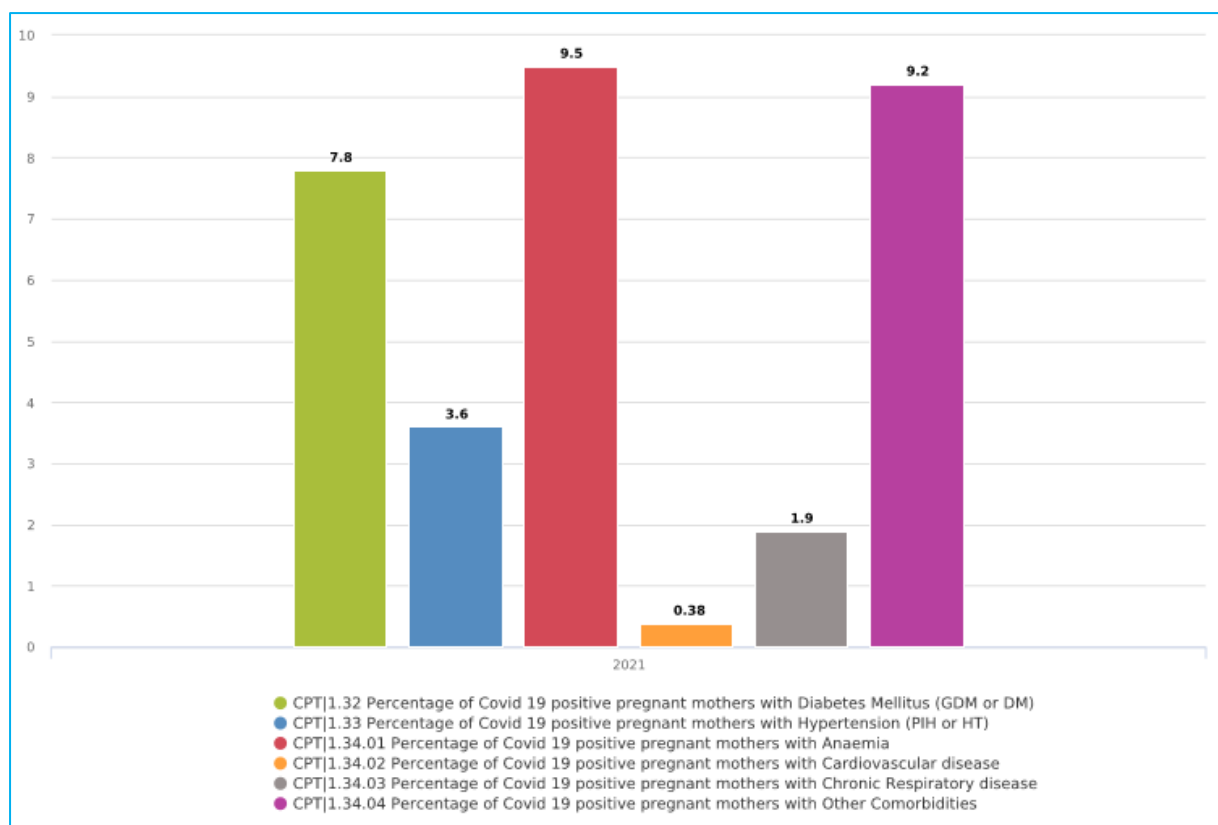


Figure 2.14: Percentage of COVID-19 positive pregnant women with comorbidities

3. FOLLOW UP INFORMATION OF COVID-19 POSITIVE PREGNANT WOMEN

All PHMs were instructed to report the severity of infection and the immediate outcome of the pregnancy after 14 days of diagnosis of COVID-19. They were instructed to pay a home visit or to contact the COVID 19 positive woman over the phone after 14 days of diagnosis to find out the outcome.

Follow up information, up to the end of June 2021, was reported only in 36.7% [711] of total registered COVID-19 positive pregnant women. This was due to the fact that the information collection commenced only in the beginning of June 2021. More follow up information will be reported in the future and will be published later.

3.1 Severity of the illness

Severity of the disease was assessed based on factors such as ICU admission, ventilation, ECMO or death. Among the 711 COVID-19 positive pregnant women followed up after discharge, 661 [93%] women were treated only as an inward patient. Thirty-nine women were treated in the ICU, out of which 15 were ventilated. One pregnant woman who had to be managed with ECMO died subsequently. A total of 12 deaths among COVID-19 positive pregnant women were reported up to 30th of June 2021.

Even though, all pregnant women who become COVID-19 positives should have been managed as in-patients, 75 women have been managed at homes. This may be due to some delays encountered in PCR reports and delays in finding institutions to send these pregnant women at the beginning of the wave.

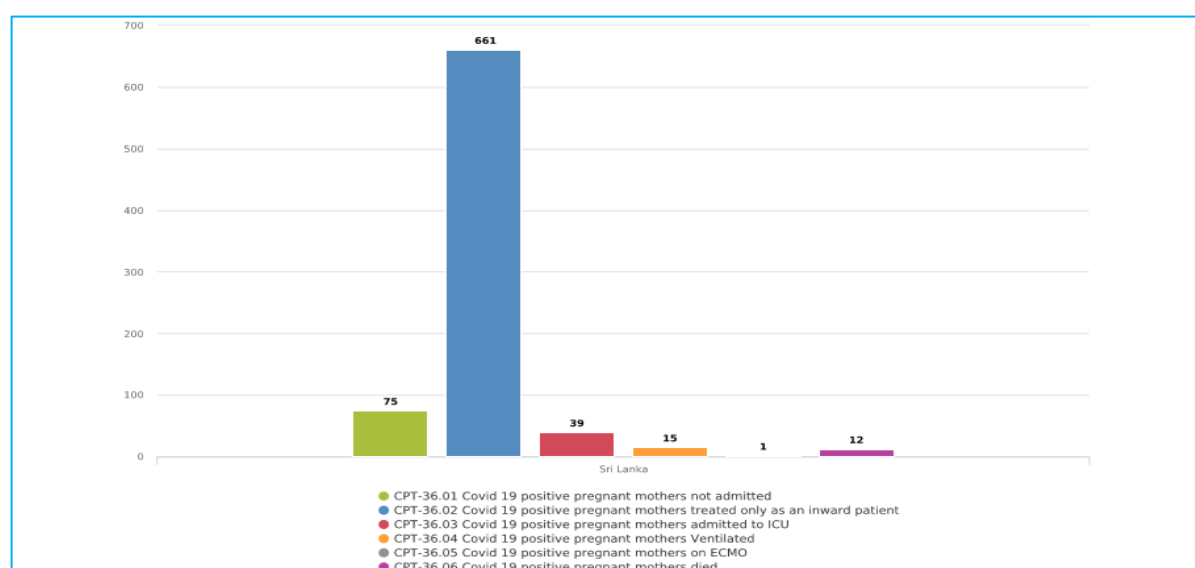


Figure 3.1: Number of COVID-19 positive pregnant women by severity of the illness

3.2 Outcome of pregnancy following the diagnosis

Among the 711 women whose follow up information was available, 470 [66%] continued their pregnancies and 266 [37.4%] had live birth at the time of discharge after treatment for COVID-19 infection. There were 3 neonatal deaths reported. Thirty-two women [4.5%] were experienced with a pregnancy loss.

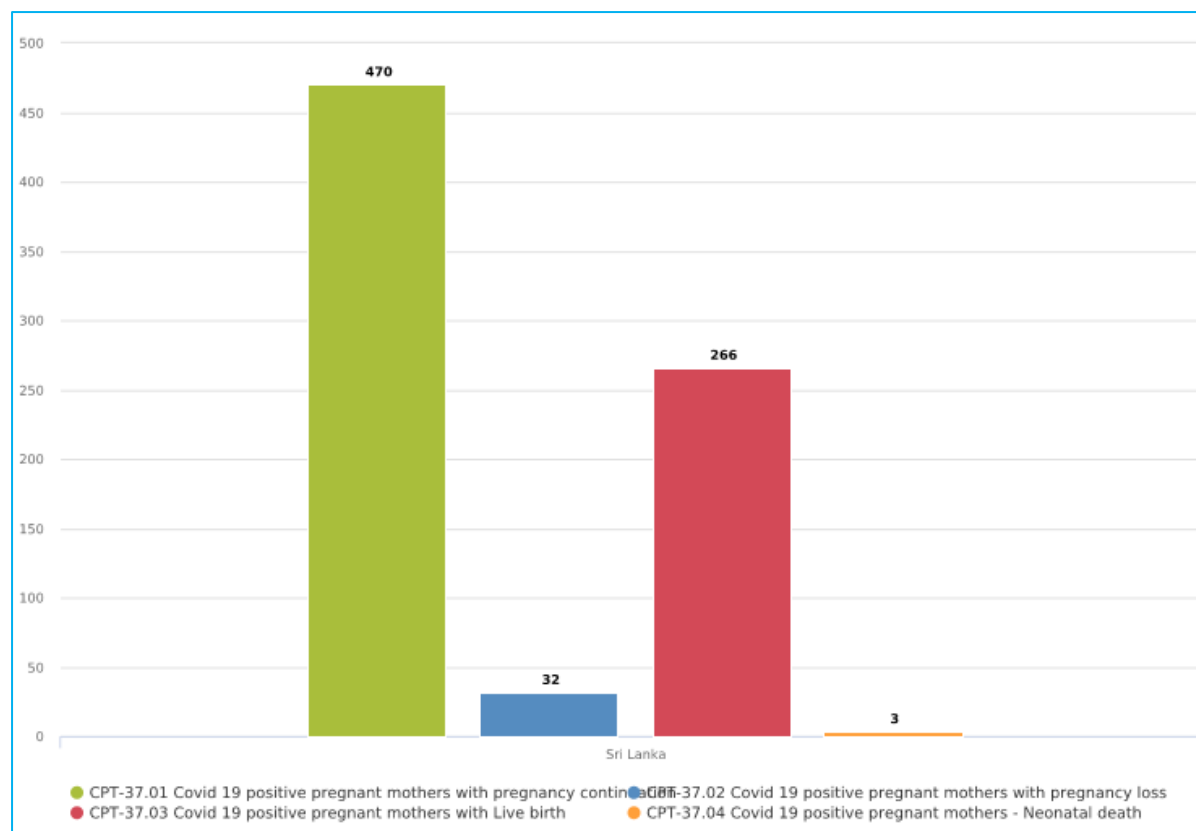


Figure 3.2: Number of COVID-19 positive pregnant women based on the outcome of pregnancy at the time of discharge

4. POSTNATAL ASSESSMENT OF INFANTS AT ONE MONTH

PHMs and the MOOH were instructed to pay a special attention on these women and on reporting any significant impact on newborns who were exposed to the virus during pregnancy.

Out of the registered COVID-19 Positive pregnant women, postnatal assessments were reported only in 229 [11.8%] by 30th of June 2021. Data collection and reporting is on going and will report a comprehensive analysis once they are available.

4.1 POA at the time of delivery

Out of the reported 229 postnatal assessments, 70% were delivered at POA of 38 weeks or more. Premature deliveries were encountered in 30% of which 1.8% were extreme premature deliveries less than 28 weeks of POA.

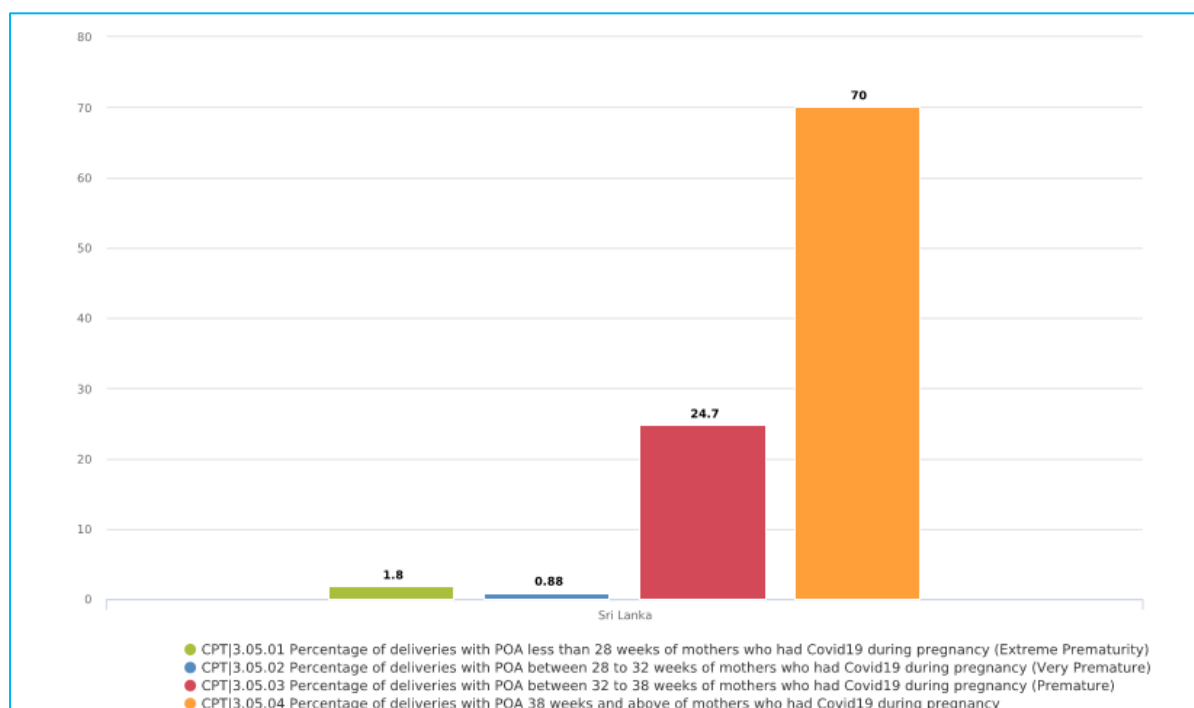


Figure 4.1: Percentage of COVID-19 positive pregnant women who were followed up by the POA at delivery

4.2 Mode of delivery

Out of the 229 postnatal assessments reported, 48.5% had normal vaginal deliveries, 34% had elective cesarean sections and 17% had emergency cesarean sections.

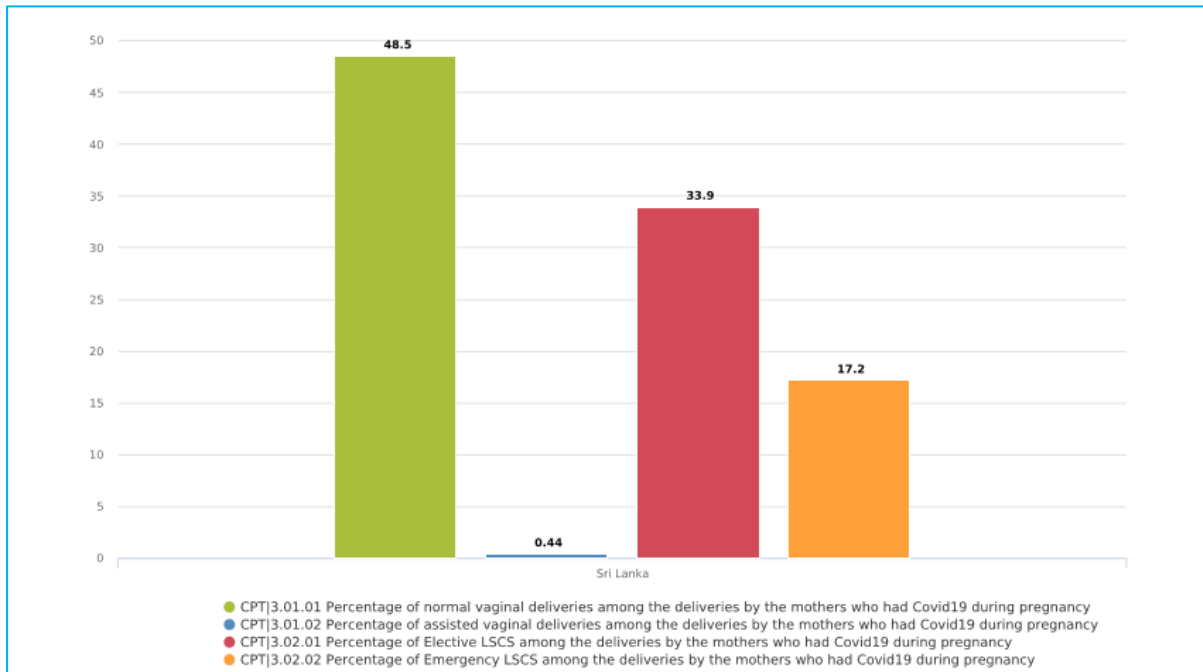


Figure 4.2: Percentage of COVID-19 positive pregnant women who were followed up by the mode of delivery

4.3. Newborn's COVID-19 status

Out of the 194 women who were diagnosed with COVID-19 and postnatal findings reported in 2021, 6.8% had babies PCR positive for COVID-19 infection. PCR tests were negative in 47% where as in 45% PCR testing have not been performed.

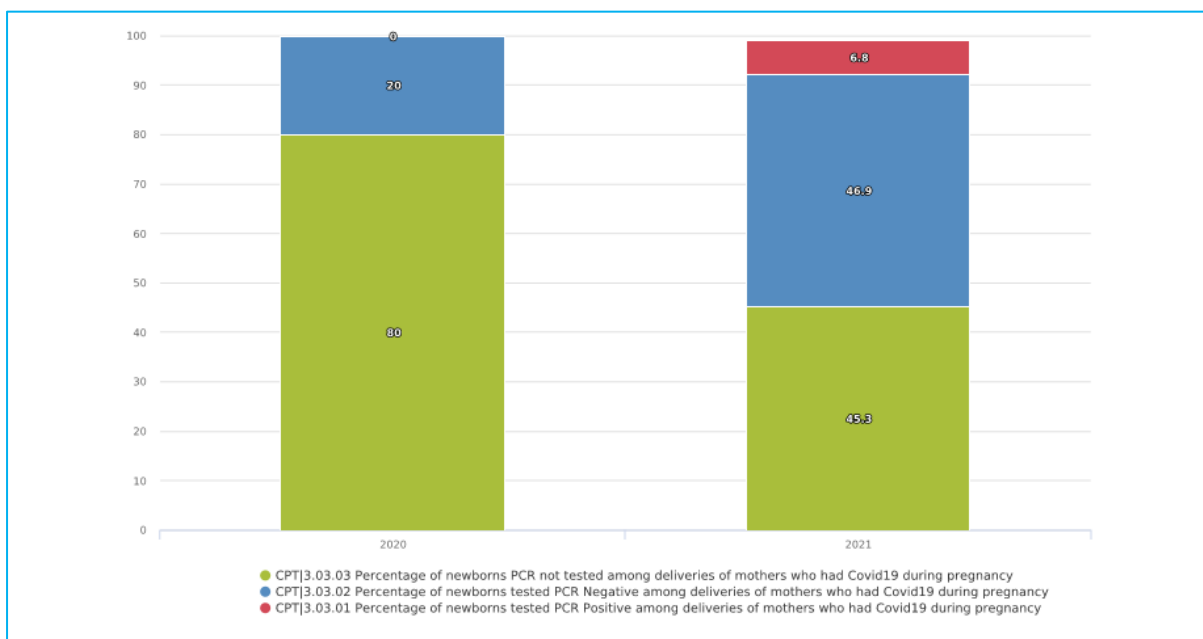


Figure 4.3: Percentage of COVID-19 positive pregnant women who were followed up by the newborns COVID-19 status

4.4 Birth weight of the newborn

Out of the total 229 COVID-19 positive pregnant women reported postnatal assessment by 30th June 2021, 80% had normal birth weights. Extreme low birth weight (<1000g) were reported in 1.3% and birth weights between 2000g-2500g were reported in 15%.

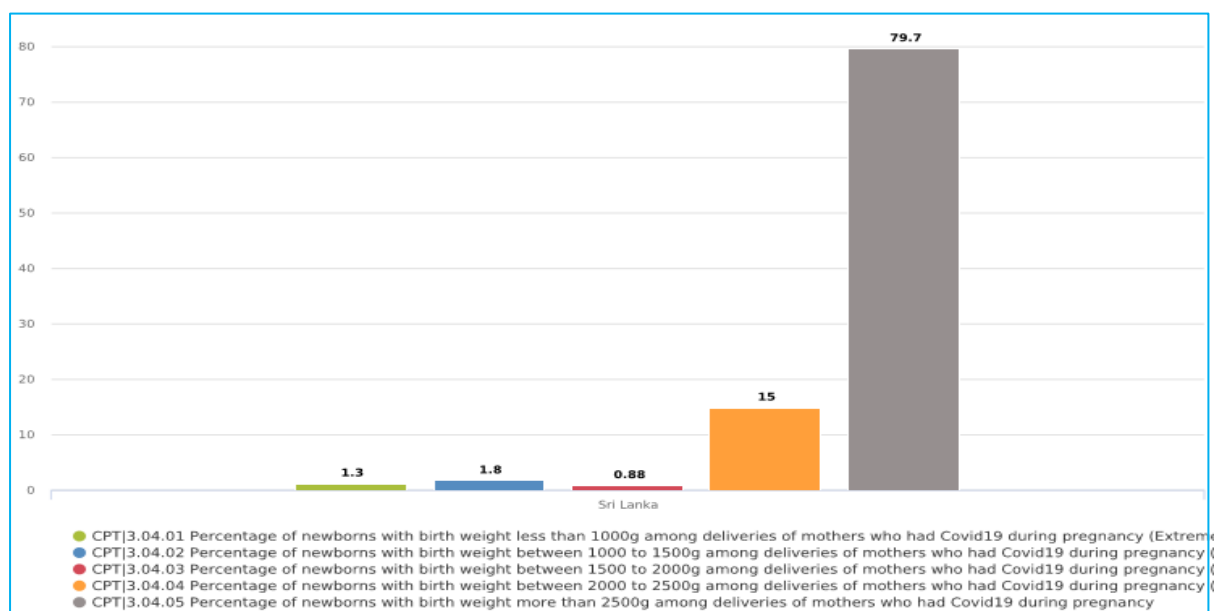


Figure 4.4: Percentage of COVID-19 positive pregnant women who were followed up by the birth weight of newborns

4.5 Newborn care

Out of the total reported postnatal assessments by the end of June 2021, 14 newborns were managed in the Special Care Baby unit (SCBU) and 3 were managed in the Neonatal Intensive Care Unit (NICU).

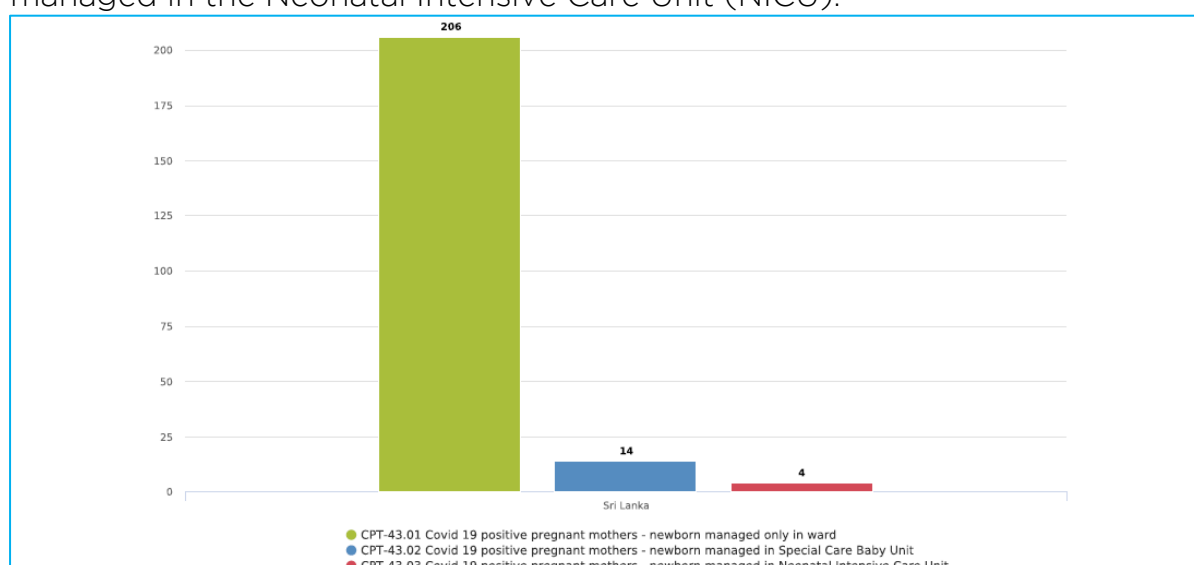


Figure 4.5: Number of COVID-19 positive pregnant women based on the care provided to their newborns

4.6 Congenital Anomaly

Out of the 229 reported postnatal assessments by the end of June 2021, congenital anomalies were detected in 2.6% of the newborns.

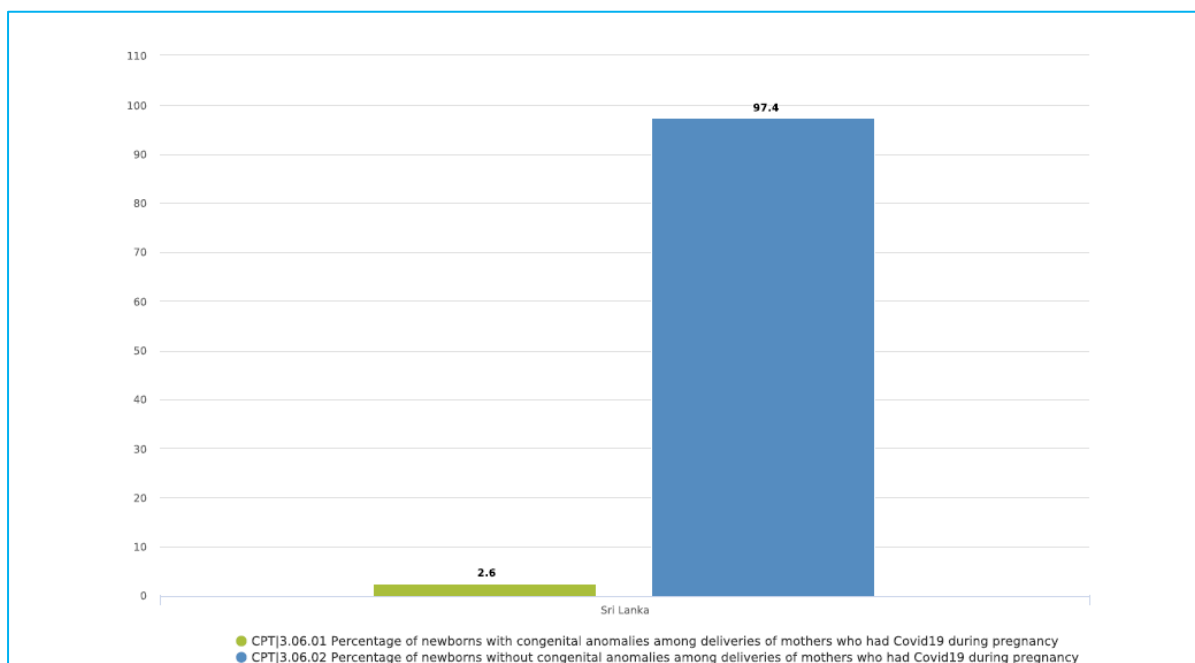


Figure 4.6: Percentage of congenital anomalies among the babies delivered by women who had COVID-19 infection during pregnancy

4.7 Breastfeeding status

Out of the 229 reported postnatal assessments by the end of June 2021, 97.4% were on exclusive breastfeeding at the end of one month.

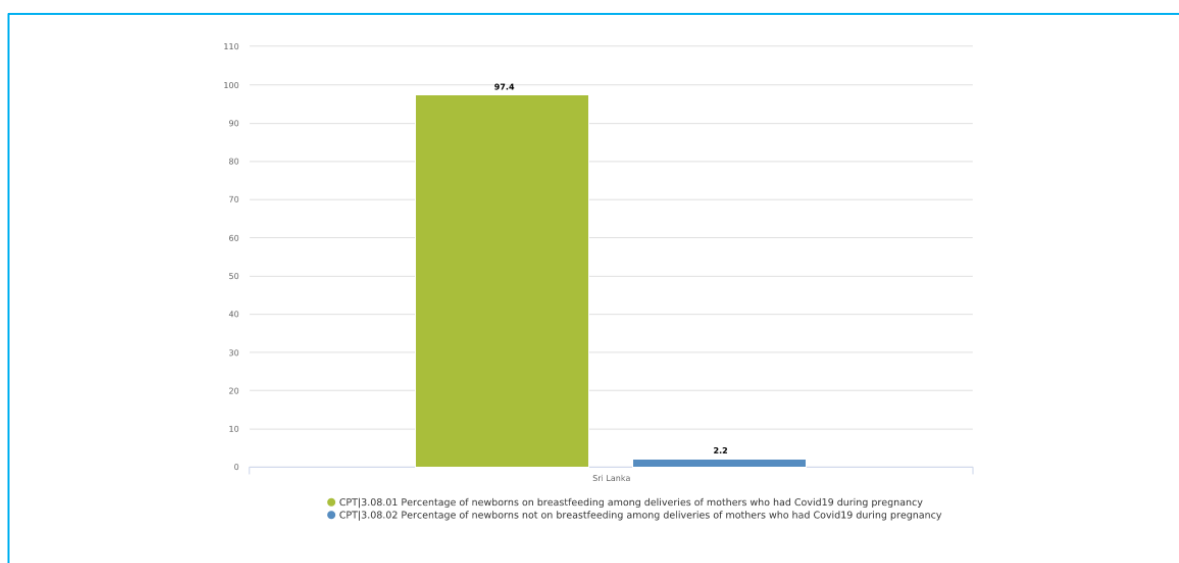


Figure 4.7: Percentage of newborns of COVID-19 positive pregnant women who were followed at one month by their breastfeeding status

5. POSTNATAL ASSESSMENT OF INFANTS AT 6 MONTHS

The infants of women who were diagnosed with COVID-19 infection during pregnancy were followed up and the information pertaining to their growth and development was captured at 6 months.

By the end of June 2021, only 45 [2.3%] out of the registered COVID-19 positive pregnant women's infants' data were available in the system. More information on follow up will be available in future and results will be published later.

5.1 Growth at 6 months

Out of the reported 45 women whose infants at 6 months finding available, majority had a normal growth and only 4.4% of infants had unsatisfactory growth.

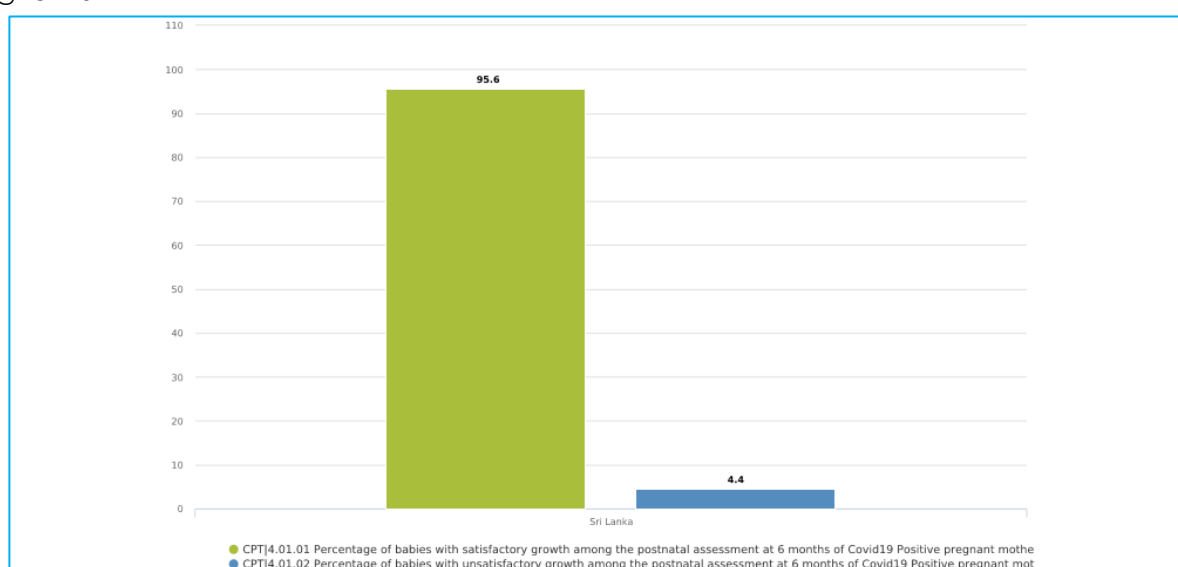


Figure 5.1: Percentage of COVID-19 positive pregnant women who were followed up by growth of the infant at 6 months postnatal assessment

5.2 Development at 6 months

Out of the 45 women whose infant's development assessment at 6 months reported by 30th of June 2021, 95.6% reported normal developmental milestones at 6 months where as 4.4% reported developmental delays.

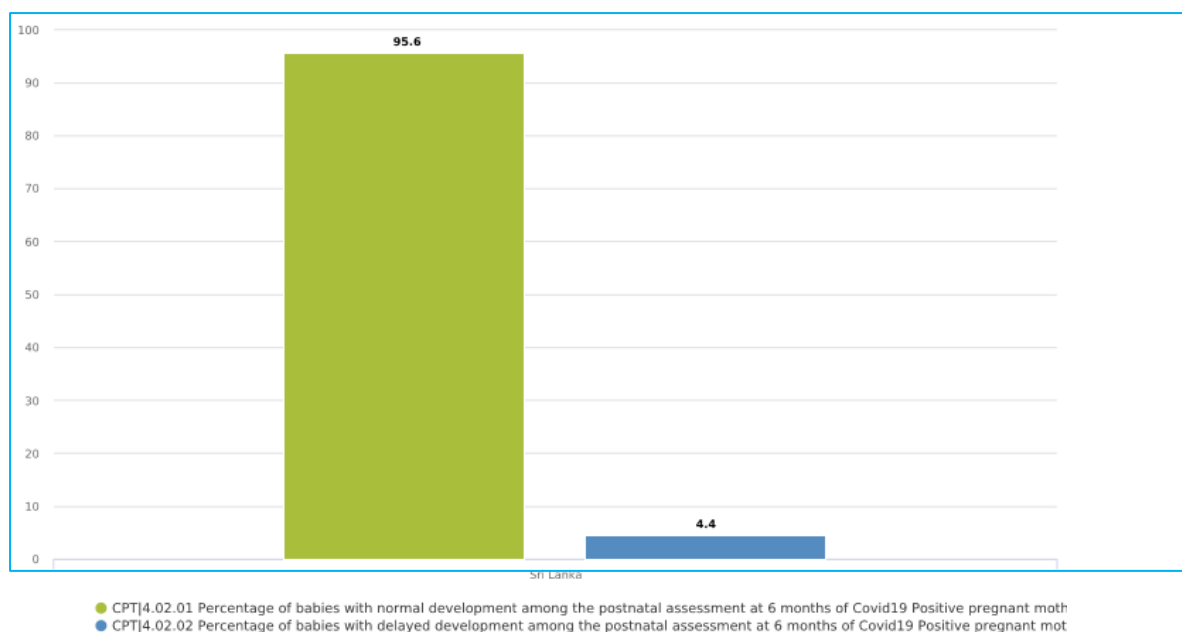


Figure 5.2: Percentage of COVID-19 positive pregnant women who were followed up by development of the infant at 6 months postnatal assessment

6. DISTRICT-WISE PRESENTATION OF SELECTED CHARACTERISTICS OF COVID-19 POSITIVE PREGNANT WOMEN

6.1 Ethnic composition

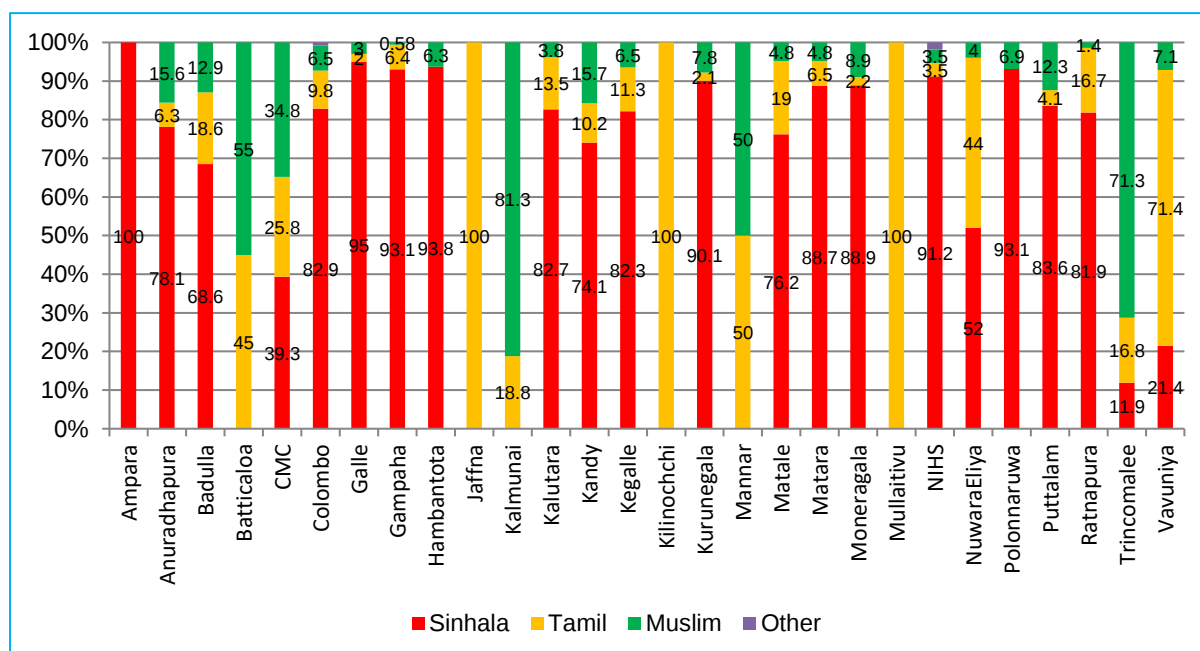


Figure 6.1: Percentage of COVID-19 positive pregnant women registered by ethnicity in each district

6.2 Sector-wise presentation

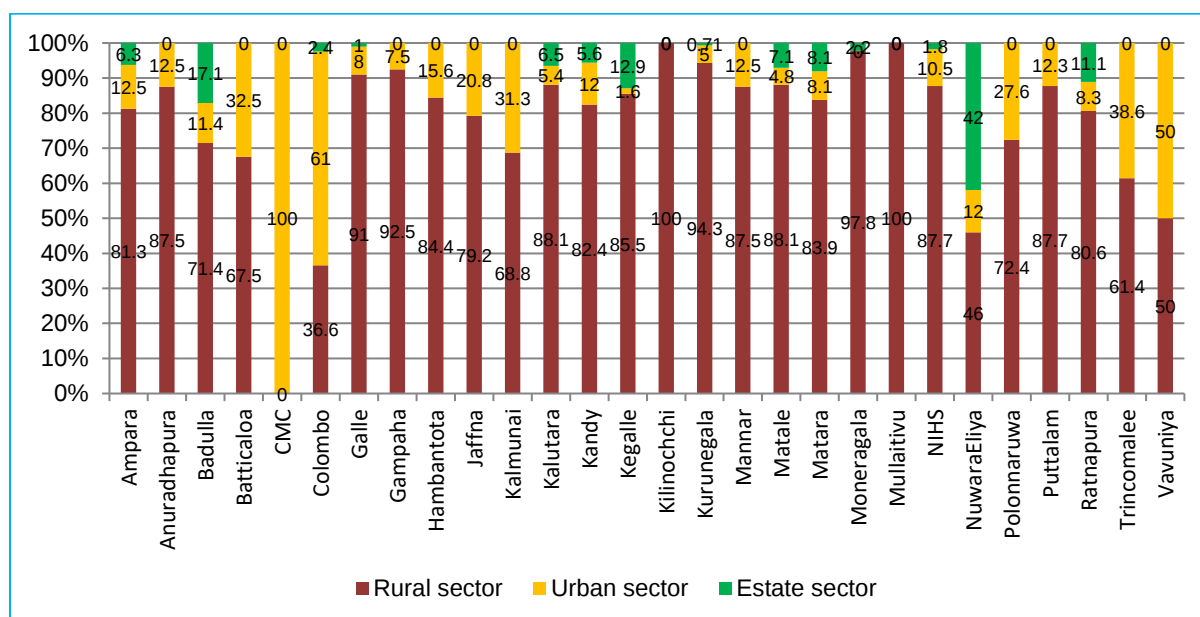


Figure 6.2: Percentage of COVID-19 positive pregnant women registered by sector in each district

6.3 Employment by district

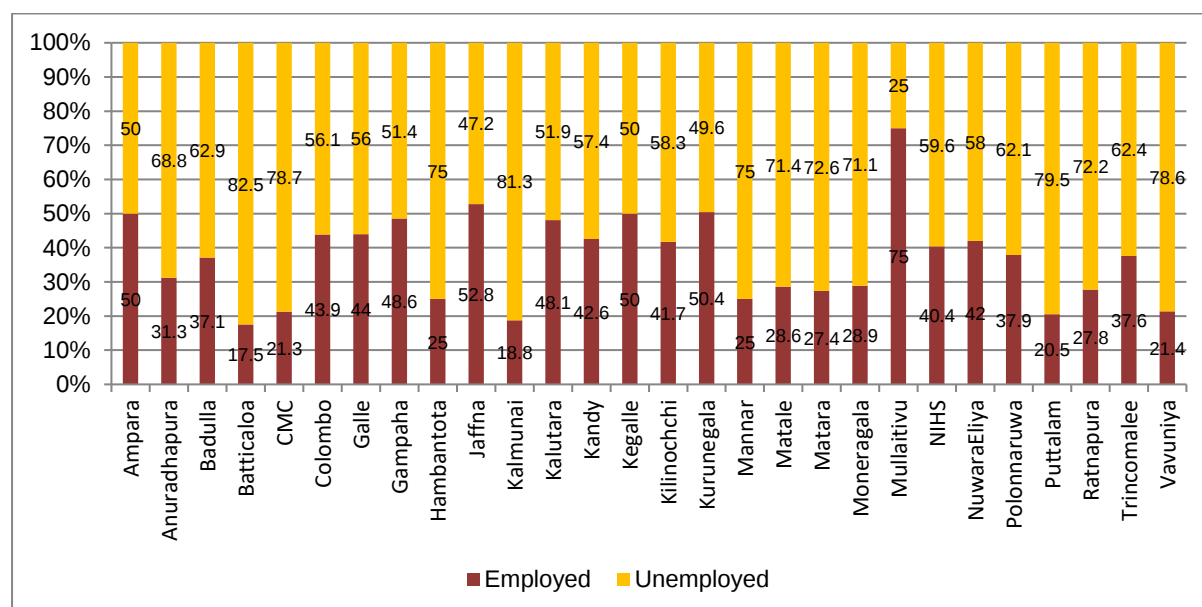


Figure 6.3: Percentage of COVID-19 positive pregnant women registered by employment in each district

6.4 Monthly family income

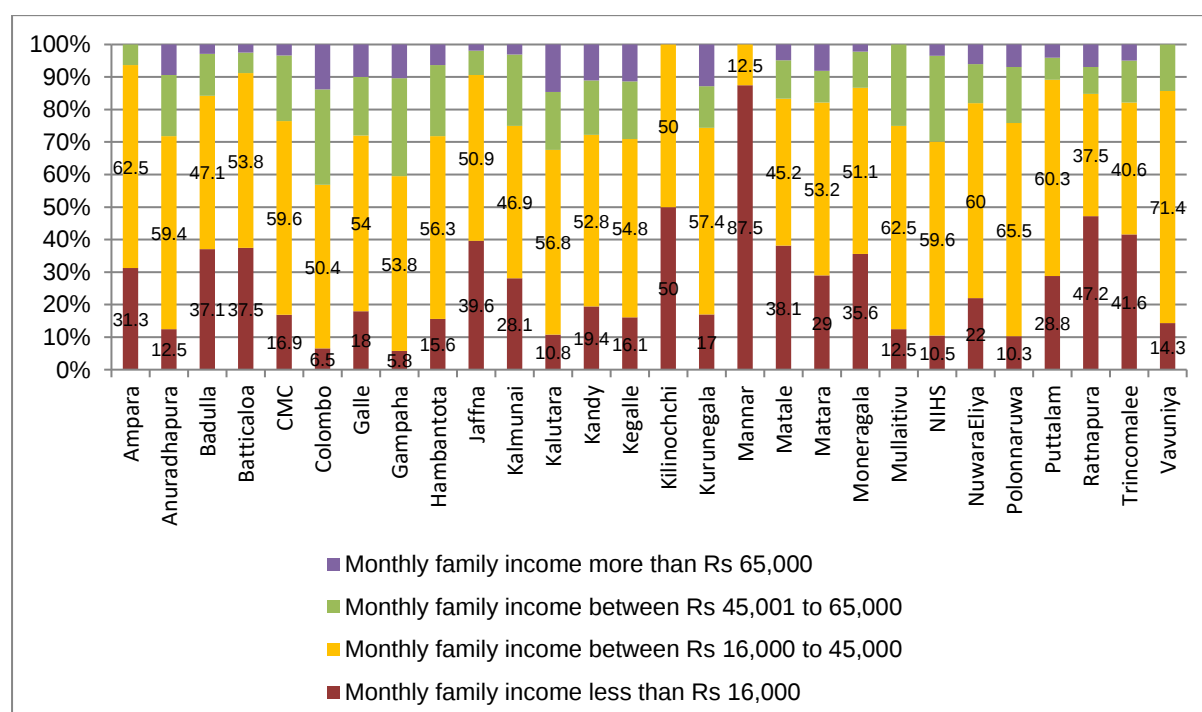


Figure 6.4: Percentage of COVID-19 positive pregnant women registered by monthly family income in each district

6.5 Pregnancy related comorbidity

Table 6.1: Percentage of comorbidities among COVID-19 positive pregnant women by each district

Districts	Diabetes Mellitus (GDM or DM)	Hypertension (PIH or HT)	Anaemia	Cardiovascular disease	Chronic Respiratory disease	Other Comorbidities
Ampara	-	-	12.5	-	-	12.5
Anuradhapura	3.1	3.1	6.3	3.1	-	6.3
Badulla	8.6	1.4	4.3	-	1.4	14.3
Batticaloa	2.5	1.3	8.8	-	-	6.3
CMC	14.6	6.7	9	1.1	2.2	10.1
Colombo	14.6	3.3	8.9	0.81	3.3	10.6
Galle	6	5	3	-	1	16
Gampaha	8.7	4.6	8.1	-	1.7	8.7
Hambantota	6.3	3.1	15.6	-	3.1	15.6
Jaffna	15.1	3.8	18.9	1.9	3.8	11.3
Kalmunai	15.6	-	37.5	-	-	15.6
Kalutara	7.6	1.6	9.7	0.54	2.2	3.8
Kandy	7.4	0.93	8.3	-	0.93	13
Kegalle	1.6	6.5	1.6	-	1.6	11.3
Kilinochchi	8.3	-	16.7	-	-	41.7
Kurunegala	6.4	2.1	9.9	0.71	2.1	7.1
Mannar	37.5	25	37.5	-	-	12.5
Matale	2.4	-	14.3	-	4.8	4.8
Matara	6.5	1.6	8.1	-	1.6	4.8
Monaragala	2.2	4.4	13.3	-	-	11.1
Mullaitivu	-	-	--	-	-	37.5
NIHS	10.5	5.3	12.3	-	3.5	8.8
Nuwara Eliya	2	10	10	-	-	8
Polonnaruwa	3.4	-	10.3	-	3.4	3.4
Puttalam	4.1	8.2	12.3	1.4	4.1	6.8
Ratnapura	6.9	2.8	9.7	-	1.4	4.2
Trincomalee	14.9	5	5	-	0.99	10.9
Vavuniya	14.3	7.1	14.3	-		

6.6 Reporting of follow up information up to 30th June 2021

Table 6.2: Reporting of follow up information of COVID-19 positive pregnant women by each district up to 30th of June 2021

Districts	Registered number	Followed up after discharge	Postnatal assessment at 1 month	Postnatal assessment at 6 months
Ampara	17	6	4	-
Anuradhapura	32	6	1	1
Badulla	70	13	6	1
Batticaloa	80	37	13	3
CMC	129	6	5	4
Colombo	128	28	15	2
Galle	101	26	15	1
Gampaha	184	87	18	-
Hambantota	32	20	1	-
Jaffna	53	16	2	-
Kalmunai	37	20	13	3
Kalutara	193	79	24	7
Kandy	115	51	16	1
Kegalle	63	29	9	1
Kilinochchi	12	2	-	-
Kurunegala	141	46	9	-
Mannar	8	5	5	-
Matale	43	12	4	-
Matara	65	31	4	1
Moneragala	45	27	7	-
Mullaitivu	8	6	-	-
NIHS	60	24	5	3
NuwaraEliya	53	10	5	-
Polonnaruwa	29	10	2	-
Puttalam	75	24	9	1
Ratnapura	77	19	13	5
Trincomalee	102	66	24	11
Vavuniya	14	5	-	-

Above is an interim analysis of COVID-19 positive pregnant women's tracker data available by 30th June 2021. Information collection and reporting is ongoing and will be published periodically by the Family Health Bureau, Ministry of Health.

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