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## CHALLENGES OF PREGNANCY DURING THE COVID19 PANDEMIC AND LOCKDOWN –A CROSS-SECTIONAL STUDY

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### ABSTRACT:

**Background:** COVID-19 outbreak was declared as a global pandemic. India decided to lock down the country bringing hardships to her people Objective: To study the challenges met by a pregnant woman during the COVID-19 pandemic and lockdown in India.

**Material and Methods:** Consenting pregnant women were given questionnaire to answer

**Results:** 32.1% were primigravida and 67.9 % were multigravida. 66.42 % said that they feared they either themselves or their baby could contract COVID-19 disease. 46.5% of the participants did not take antenatal visit to the doctor. The reasons given were, they followed the government advisory not to visit hospitals unnecessarily (26%), non-availability of transport (39.7%), fear of coming to the hospital (22.3%). 23.7% took teleconsultation and 79.2% were satisfied with the response. 18.45% took medications from the pharmacy on their own and 52.52% did not receive their due tetanus toxoid injection. 44.46% could not get their due obstetric ultrasonogram.

**Conclusion-** Abrupt lockdown of the country not only prevented the spread of the virus, but also brought about hardships to pregnant women. 19 Pandemic affected the antenatal care of pregnant women.

**Key words:** COVID -19, Antenatal care, transport, Ultrasonogram

### Introduction:

The World Health Organization (WHO) on March 11, 2020, has declared the novel corona virus (COVID-19) outbreak a global pandemic [1]. The first case of COVID-19 in India was confirmed on 30<sup>th</sup> January 2020 when a student from Wuhan University returned to Trissur, Kerala [2]. It was only after a month; on 9<sup>th</sup> March was the first case of COVID-19

diagnosed in the state of Karnataka. The Karnataka State Government was quick to respond by being the first state in India to invoke the epidemic Disease Act, 1897, just two days after the first case was detected positive [3]. One of the first actions of the State Government was to close down the kindergarten and primary schools [4]. Ongoing final exams of schools and colleges were suspended [5]. All public places

where there was high footfall like malls, markets, schools and colleges, cinema theatres, marriages and conferences were shut [6]. On Sunday 22 March, 2020 the State Government announced further restrictions as lockdown of 9 Districts up to 31 March. All non-essential services in these districts were suspended [7]. On the National level the Central Government decided to lock down the entire country for a period of 21 days beginning on 25<sup>th</sup> March. The central government lockdown was imposed across every district in the country [8]. Non-essential movement of public was prohibited. There was no transport facility. All non-essential shops were closed. The Ministry of Health and Family Welfare issued a guideline for hospitals on 22<sup>nd</sup> March 2020. It not only asked the hospitals to be ready with additional beds for COVID- 19 patients, but also asked non-emergency patients not to visit the hospital. They also asked to discharge stable patients and to restrict new admissions. The non-emergency surgeries were to be postponed [9]. Antenatal care was considered as an essential service. However, due to the fear of the spread of the virus, lack of transport facility and limited resources at hospitals, the pregnant women faced difficulties to get an antenatal checkup and maternity services at their regular hospitals.

The Central government imposed further lockdowns from 3<sup>rd</sup> to 14<sup>th</sup> May known as Lock down 2.0, this lock down was extended to 17<sup>th</sup> May and a further 31<sup>st</sup> May by the Government of Karnataka<sup>[10]</sup>. The State was divided into 4 zones, Containment zone, Red zone, Orange zone and Green zone based on the risk profiling of that area. Public transport of buses, auto-rickshaws and trains were prohibited from the beginning of the lock down till 18<sup>th</sup> May. The country started to unlock from 8<sup>th</sup> June 2020 [11].

The study aims to study the challenges met by pregnant women during the COVID 19 pandemic.

### **Materials and methods:**

**Study design:** The study is a prospective cross-sectional survey.

**Source of data:** All consenting pregnant women attending the Department of Obstetrics and Gynecology of BLDE (DU) Shri B.M.Patil Medical College, Hospital and Research Center, Vijayapura, Karnataka from 21/05/2020 till 08/06/2020

The inclusion criteria were to include consenting women who were pregnant during the period from 23<sup>rd</sup> March 2020 till 8<sup>th</sup> June 2020. Exclusion criteria was to exclude women who did not consent for the study .

**Duration of the study:** From 21/05/20 to 08/6/20

The study was registered in Clinical Trials of India: CTRI/2020/05/025293

The study obtained ethical clearance from the Institute Ethics Committee no. IEC/4307/2019-20

**Statistical Analysis:** : Categorical variables were presented as frequency (%)

**Results: Demographics:** A total of 315 women attended the outpatient and inpatient departments of the Department of Obstetrics and Gynecology, Shri B.M. Patil Medical College, Hospital and Research Center, BLDE(Deemed to be University), Vijayapura, Karnataka, India. During the study period, 290 women consented for participation, 25 refused to participate as they felt that the information that they would have to give the research team may be passed on to the government, though the study was confidential. Nineteen participants were excluded due to incomplete forms, finally 271 women were interviewed during this period. A total of 32.1% primigravida and 67.9 % were multigravida. Pregnant women of 18-42 years of age participated in the study. [Table 1]

**Table 1: Demographics of the participants.**

Gravidity	No. of cases/ total cases	%
Primigravida	87/271	32.1
Multigravida	184/271	67.9
Age of the participants in years		
18-22	90/271	33.2
23-27	102/271	37.64
28-32	67/271	24.72
33-37	9/271	3.32
38-42	3/271	1.1

*Fear perception of COVID-19:* 66.42% of the participants said that they were afraid that they would contract COVID-19 infection.

*Information regarding the COVID-19 pandemic and lockdown:* We asked the participants the sources of their knowledge on COVID-19 infection and the lockdown. A total of 14.02% said they read it in the newspaper, 9.22% from the internet, 73.43% in the TV and 3.3% had no knowledge about it. [Table 2]

**Table 2: Source of information regarding the Covid-19 pandemic and lockdown.**

Parameter	No. of cases/ total cases	%
Newspaper	38/271	14.02
Internet	25/271	9.22
TV	199/271	73.43
Did not have any knowledge about it	9/271	3.3

*Transport:* Interstate, inter-district, intra-district, and city buses were completely off the road during the lockdown. Auto rickshaws were not available. Some (36.16%) of the participants had to travel by rented vehicles to the hospital. Most (94.89%) felt that they had to pay a higher rental fee for their vehicle. [Table 3]

**Table 3: Transport of the participants during the COVID 19 pandemic and lockdown.**

Parameter	No. of cases/ total cases	%
Mode of transport used		
Own vehicle	98/271	36.16
Rented vehicles	98/271	36.16
Bus	19/271	7.01
Any other mode	56/271	20.66
Did the participants feel that they were charged more for the rented vehicle than usual?	93/98	94.89

*Antenatal Visits during the lock down:* more than half (53.5%) of the pregnant women could take at least one antenatal visit during the lockdown, 46.5% of the women could not take any visits. Of those who did not visit the hospital, the reasons given were that they followed the government advisory not to visit hospitals (26%) there was no transport (39.7%), they were afraid to go the hospital (22.3%) and that doctors were not available (5%). We asked the participants the number of visits that they had missed. Some (18.45%) said that they had missed one visit and 10.33% had missed two visits. Some patients visited other doctors. The reason being fear of COVID-19 infection (29.41%), 11.6% did not want to travel to that city. In the entire district of Vijayapura, COVID 19 was restricted to the city of Vijayapura. (at the time of the study). Participants wanted to avoid visiting the city. Also, as there was a case of COVID-19 diagnosed in the Shri B.M. Patil Medical College, Hospital and Research Center, patients avoided coming to the hospital for some time.

For those who did not go to the hospitals for antenatal checkup, 18.45% of the patients took medication from the pharmacy on their own. A majority of the patients (83.4%) patients

practiced social distancing norms and frequent washing of hands. [Table: 4]

The distribution of participants from various containment zones was as follows

36 %( 1/271) red zone 1.8 %( 5/271), orange zone 71.21% (193/271) green zone 26.56% (72/271).

Over half (52.25%) of the pregnant women did not avail their due Tetanus Toxoid injection during the lockdown.

*Teleconsultation during the lockdown:* As many of the doctors had shut their clinics during the lockdown, only 45.38% could visit their regular doctors. Telephonic consultations were allowed by the government during the pandemic however 37.26% could not contact their doctors on phone. Of those who could contact their doctors, 79.2% were satisfied with the teleconsultation or advice on phone, 27.72% of the patient's paid for the telecommunication. [Table: 4]

**Table 4: Details regarding antenatal visits.**

Parameter	Cases/total number of cases	%
Number of participants who took antenatal visits during the lock down	145/271	53.5
Number of participants who did not take antenatal visits during the lock down	126/271	46.5
Number of participants worried that both themselves and the baby might get infected by Covid-19	180/271	66.42
Government advisory not to visit hospital for non-emergency conditions	33/126	26
Non availability of means of transport	50/126	39.7
Afraid to go to hospital due to COVID 19 infection	28/126	22.3
Doctor wasn't available	15/126	12
Number of patients referred from a different place	46/271	16.97
Number of visits missed by the participants		
0	8/271	12.17
1	73/271	18.45
2	70/271	10.33
3	2/271	5.53
Number of participants who could visit their regular doctor	123/271	45.38
Participants who could contact their regular doctor over phone	101/271	37.26
Participants satisfied with teleconsultation	80	79.2
Participants paid for teleconsultation	28/101	27.72
Participants who visited another doctor due to non- availability of their regular doctor	68/145	46.89
Reason for visiting another doctor		

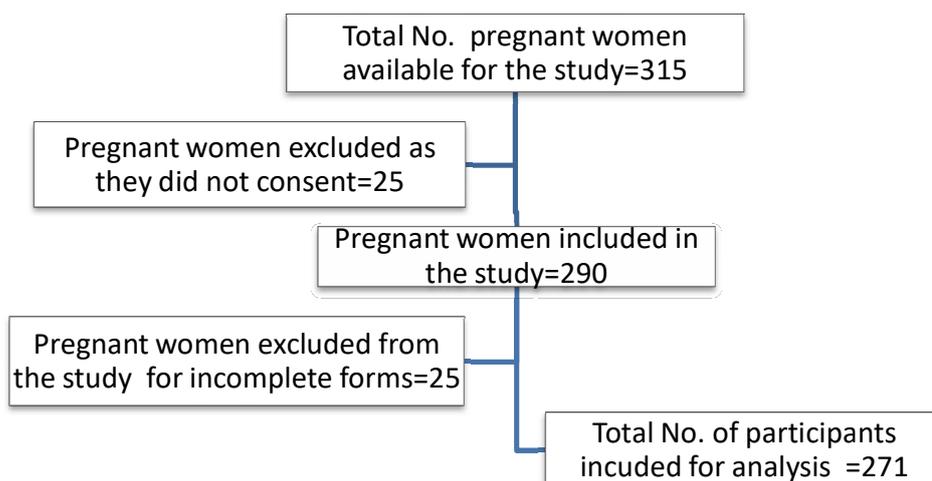
Did not want to go to that doctor due to fear of COVID 19	20/68	29.41
Non availability of means of transport	54/68	79.41
Did not want to travel to that city	08/68	11.76
Number of participants who took medications at the pharmacy on their own	50/271	18.45
Participants who got their expected TT injection during the pandemic	125/238	52.52
Number of participants who experienced complication of pregnancy during the pandemic	17/271	6.2

**Table 5: Ease at which Obstetric ultrasonograms during the Covid-19 pandemic and lockdown.**

Parameter	Cases/total Cases	%
Easily (walk in)	52/271	19.18
With appointment	97/271	35.8
Not able to get it done because scan centers were shut/limited use	121/271	44.64

*Ultrasonogram imaging:* Many of the imaging centers where ultrasonogram was done were closed during the lock down. We asked the pregnant women whether they could get their

**Strobe Flow Chart**



due obstetric scan done. Nineteen point eight percent said that there was no problem in getting the scan done, 35.8% could get it done with an appointment only and 44.64% could not get an obstetric ultrasonogram done. [Table: 5]

*Nutrition during the lockdown:* As there was a change in the market timings and regular weekly markets were cancelled, local street vendors were to sell groceries; we asked the pregnant women whether they could get sufficient food during the lock down. A majority (91.5%) said that they were happy with the food that was available.

### Discussion:

The COVID 19 pandemic gripped the world with fear of death. Pregnant women are required to take regular antenatal checkups at scheduled intervals. Fear that they may contract the disease was imminent. In our study over half of the pregnant women feared that they would contract COVID 19 infection. In a Chinese study about 94.6%(894/2 002) of the pregnant women worried about being infected during the COVID-19 epidemic<sup>[12]</sup>. In a study conducted in the United States, 24.6% of participants feared contracting the virus<sup>[13]</sup>.

The government announced the lockdown and information regarding it on mass media , social media, newspapers, announcements on the streets by loud speakers. In our study most of the participants were informed about the pandemic and lockdown by television. Similar measures of informing the public by mass media and internet were done in Bangladesh <sup>[14]</sup>. During the SARS COV-1 pandemic, pregnant women, new mothers and new born were asked to avoid crowded places<sup>[15]</sup>. Similar guidelines were announced by the government of India as social distancing norms were to be followed. All patients were advised not to come to the Outpatient Department for routine checkups if they could be postponed or avoided. Elective surgeries were to be postponed <sup>[16]</sup>.

In our study 53.8% of the patients could take an antenatal visit. The rest could not visit the doctor. The commonest reason for their inability to meet the doctor was the lack of transport. Connectivity of villages and small towns to the district's center Vijayapura is mainly by government run buses. As these buses were not plying, the pregnant women had to forgo a visit or make their own arrangements to come to the hospital. The taxi fees are more than the bus fees and some of them took advantage of the pandemic by charging more fees. Some (38%) of our participant had to use taxis. In a study

conducted by China 87.7% (1 756/2002) of the participants avoided presenting themselves in people-density places<sup>[12]</sup>.

To ally the issue of pregnant women visiting the hospitals, drive-through prenatal visits were undertaken in the United States where blood pressure, fetal heart rate and ultrasonogram were done. This reduced the visits and anxiety of the pregnant women <sup>[17]</sup>.

In a special case scenario, doctors were allowed to practice telemedicine. They were given permission to give advice on the telephone. Over half of the patients could contact their doctor on the telephone, 39 % were dissatisfied. Telehealth facilities were offered in New York during the pandemic especially for high risk pregnant women and for postpartum care. This could reduce the exposure to the corona virus <sup>[18]</sup>.

Ultrasonogram is usually done in imaging centers and obstetric clinics at Vijayapura. The fear of spread of the virus had led to shut down of these clinics. Of those which were open, patients had to wait in for their turn by appointment. A little under half of the patients could not avail an obstetric scan.

The lock down was so sudden and dramatic that people were given literally no time to even get their essentials and daily needs at home. By a few days the government was able to arrange for groceries in the neighborhood. In our study most of our participants were happy about the food that they were able to get. Other studies conducted in Poland reviled that eating more and snacking increased in general during the pandemic as people were at home <sup>[19]</sup>.

Conclusion: The COVID 19 Pandemic affected the antenatal care of pregnant women. The lockdown created obstacles in obtaining antenatal care. The fear of the virus also prevented women from coming to the hospitals. Abrupt lockdown of the country not only

prevent the spread of the virus, but also brought about hardships to pregnant women.

**Recommendations:** Any type of lockdown should take into consideration the preparedness and health of the people especially pregnant women who require frequent visits to the hospital for antenatal care.

**Study limitations:** The study did not assess the effect of omitting antenatal visits or suboptimal antenatal care on the pregnancy.

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