

# A Tertiary Health Care Centre Experience of the Impact of COVID on the Case Load in the Department of Obstetrics and Gynaecology at MGM Hospital, Aurangabad

Dr. Avani Dhingra, Dr. Shubhangi Mande  
(Professor and Head of the unit)  
Department of Obstetrics and Gynecology  
MGM hospital, Aurangabad, Maharashtra, India

**Abstract:- Background – COVID – 19 pandemic had profound impact on the health care system which came to a collapse on every front. We aimed to study the change in number of patients in the Department of Obstetrics and Gynecology in MGM hospital, Aurangabad.**

**Methods: It is retrospective, observational study which was done over a period of 18 months including pre pandemic, pandemic and post pandemic phases wherein the number of OPD and IPD patients and Number of the emergency services were compared.**

**Findings: OPD patient load decreased by 73.2% during the pandemic phase as compared to the pre pandemic era and couldn't gain the original count of the pre pandemic phase even after the pandemic was over.**

**Patients with gynecological complaints decreased significantly and the total confinements reduced by 66.4%. The second trimester abortions showed a relative increase in the pandemic phase. Also the ANC patient load showed a decreasing trend however the majority of OPD or emergency patients were ANC.**

**In total the COVID 19 pandemic adversely affected the total patient load at a tertiary health care center in this case the MGM Hospital, Aurangabad.**

## I. INTRODUCTION

The outburst of Covid-19 began to rattle the world in the last quarter of the year 2019. As a result of the pandemic, the first quarter of the year 2020 saw most of the countries taking some drastic steps, including lockdown, to arrest the spread of the deadly virus. To address the crisis and increasing number of Covid-19 patients, Government of India took control and many hospitals, particularly Tertiary Healthcare Centers (THC), were converted into COVID Centers. The fallout of Corona virus was that hospital as well as outdoor like transport activities came to a standstill, severely impacting life in general. Though healthcare became a priority, the focus turned mainly to Covid-19 treatment. Except for emergency situations, public in general, tried to delay the treatment of their ailments to the extent possible due to:

- apprehensions of likely exposure to corona virus
- Economic constraints owing to reduced incomes.

With movement restrictions and public transport disrupted, the preference shifted to on-line consulting and visiting nearby hospitals only. The situation led to a drastic change in the number and pattern of patients' footfall in Tertiary Healthcare Centers.

## II. AIM

To study the change in number of patients in OBGY practice at MGM Medical college and hospital, Aurangabad during the pandemic and post pandemic era vis-à-vis pre-pandemic period.

## III. OBJECTIVE

- To study change in Number of cases in both OPD and IPD during different phases of lockdown and unlocking.
- To analyse emergency patients in OBGY.

## IV. MATERIAL AND METHODS

- **STUDY DESIGN:** Retrospective observational study.
- **Duration:** 18 months (October 2019 to September 2020 and July 2021 to December 2021)
- **Sample size:** All OPD cases and emergency patients.
- The records were obtained from OPD, LABOUR ROOM and RECORD SECTION of MGM Hospital, Aurangabad.
- **Inclusion criteria:** All patients consulting in OBGY at MGM Hospital, Aurangabad
- **No exclusion criteria.**

### A. METHODOLOGY

Testing proportions by Z test.  
Keeping ANC's in OPD as the constant

### B. Parameters studied include:

- Trend of total OPD footfall vs. ANC Cases.
- Trend of Booking of Cases.
- Trend of Cases with h/o abortion.
- Trend of Normal and LSCS Delivery.
- Trend of labor room receiving and patients willing for admission

**V. RESULTS AND DISCUSSION**

	<b>Total OPD patients</b>	<b>ANC</b>
<b>Pre COVID</b>	22694	11952
<b>COVID</b>	6081	5361
<b>Percentage decrease</b>	73.20	55.15
<b>Binomial test p value</b>	0.0001	0.0001
<b>Significance</b>	HIGHLY SIGNIFICANT	HIGHLY SIGNIFICANT
<b>Z value</b>	157.823	22.734

Table 1: Total OPD cases vs. ANC cases (before pandemic and during pandemic)

There was a significant drop of 73.2% in OPD cases in COVID era starting in later part of March 2020.

There was a drop in ANC CASES by 55.15% as gynecology cases decreased the relative percentage of ANC cases has gone up significantly from 58.66% to 88.15%.

	<b>Total OPD patients</b>	<b>ANC</b>
<b>Pre COVID</b>	22694	11952
<b>Post COVID</b>	18918	11685
<b>Percentage decrease</b>	16.638	2.3
<b>Binomial test p value</b>	0.0001	0.0001
<b>SIGNIFICANCE</b>	Highly significant	Highly significant
<b>Z value</b>	-269.23	-696.20

Table 2: Total OPD cases vs. ANC cases (before pandemic and after pandemic)

Although there is a rise in OPD patients as compared to COVID Phase yet the pre-COVID potential was not reached. There was a significant lag of 16.638% in OPD

cases in Post COVID era which persisted. The lag in ANC CASES was small only 2.3%. Gynecology case potential still could not be matched.

	<b>MGM</b>	<b>Outside</b>
<b>Pre COVID</b>	807	769
<b>COVID</b>	257	251
<b>ANC</b>	11952	5361
<b>RELATIVE PERCENT IN PRE COVID</b>	6.75	6.43
<b>RELATIVE PERCENT IN COVID</b>	4.79	4.68
<b>PERCENTAGE DECREASE</b>	68.15	67.36
<b>p VALUE</b>	0.000	0.000
<b>SIGNIFICANCE</b>	HIGHLY SIGNIFICANT	HIGHLY SIGNIFICANT
<b>Z value</b>	22.137	20.525

Table 3: Booking of cases before pandemic and during pandemic when compared with cases outside the campus

Booked and outside booked patients dropped by 68.15% and 67.36%. Which was less as compared to fall in

OPD cases(73.2%) as relatively more patients came during emergency time.

	<b>MGM</b>	<b>Outside</b>
<b>Pre COVID</b>	807	769
<b>Post COVID</b>	513	646
<b>ANC</b>	11952	11685
<b>RELATIVE PERCENT IN PRE COVID</b>	6.75	6.43
<b>RELATIVE PERCENT IN Post COVID</b>	4.39	5.52
<b>PERCENTAGE DECREASE</b>	36.43	16
<b>p VALUE</b>	0.0001	0.0001
<b>SIGNIFICANCE</b>	Highly significant	Highly significant
<b>Z value</b>	-16.004	-51.391

Table 4: Booking of cases before pandemic and during pandemic when compared with cases outside the campus

There was a drop of 36.43% in booked patients in MGM which was larger as compared to outside booked patients which was 16% as during the Pandemic phase there

was significant decrease in the footfall which was reflected likewise in the post pandemic phase.

ABORTIONS	<12 week	>12 week	Total
Pre COVID	192	94	286
COVID	24	45	79
RELATIVE PERCENT IN PRE COVID	1.61	0.79	2.39
RELATIVE PERCENT IN COVID	0.45	0.84	1.47
PERCENTAGE DECREASE	87.5	52.1	72.4
p VALUE	0.000	0.718	0.000
SIGNIFICANCE	HS	NS	HS
Z value	31.314	0.717	16.874

Table 5: Cases with history of abortion before and during pandemic

Compared to PRE-COVID time, abortions with fetal age < 12 weeks, decreased significantly by 87.5% as compared to 52.1% for fetal age >12 weeks.

The fall in second trimester abortions was not significant during COVID, possibly due to delayed reporting by patients leading to late detection of fetal anomalies.

ABORTIONS	<12 week	>12 week	Total
Pre COVID	192	94	286
Post COVID	41	67	108
RELATIVE PERCENT IN PRE COVID	1.61	0.79	2.39
RELATIVE PERCENT IN post COVID	0.35	0.57	0.92
PERCENTAGE DECREASE	78.65	28.73	62.3
p VALUE	0.0001	0.0001	0.0001
SIGNIFICANCE	Highly significant	Highly significant	Highly significant
Z value	19.319	-8.980	8.5015

Table 6: Cases with history of abortion before and after pandemic

• Compared to PRE-COVID time, abortions with fetal age < 12 weeks, decreased significantly by 78.65% as compared to 28.73% or fetal age >12 weeks.

• The fall in abortion showed almost the same trend and there was still a significant lag.

CONFINEMENTS	LSCS	Vaginal	Total confinements
Pre COVID	731	845	1576
COVID	251	279	529
RELATIVE PERCENT IN PRE COVID	6.12	7.07	13.19
RELATIVE PERCENT IN COVID	4.68	5.20	9.87
PERCENTAGE DECREASE	65.7	67.0	66.4
p VALUE	0.000	0.000	0.000
SIGNIFICANCE	HIGHLY SIGNIFICANT	HIGHLY SIGNIFICANT	HIGHLY SIGNIFICANT
Z value	17.82	20.971	27.569

Table 7: Normal delivery, LSCS cases before and during pandemic

Although the total number of confinements significantly decreased by 66.4% during COVID era, the

relative proportion of LSCS and normal deliveries remained same.

CONFINEMENTS	LSCS	Vaginal	Total confinements
Pre COVID	731	845	1576
Post COVID	566	603	1159
RELATIVE PERCENT IN PRE COVID	6.12	7.07	13.19
RELATIVE PERCENT IN Post COVID	4.84	5.16	9.91
PERCENTAGE DECREASE	22.58	29.4	26.46
p VALUE	0.0001	0.0001	0.0001
SIGNIFICANCE	Highly significant	Highly significant	Highly significant
Z value	-35.399	-26.735	-42.426

Table 8: Normal delivery, LSCS cases before and after pandemic

The decrease was 26.46% which was much less than COVID era but could not meet the pre COVID potential. Number of LSCS were slightly more by 0.2%

LR RECEIVING	Not willing for admission	Admitted patients	Total
Pre COVID	800	2208	3008
COVID	533	781	1314
RELATIVE PERCENT IN PRE COVID	6.69	18.47	25.17
RELATIVE PERCENT IN COVID	9.94	14.57	24.51
PERCENTAGE DECREASE	33.4	64.6	56.3
p VALUE	0.000	0.000	0.356
SIGNIFICANCE	HIGHLY SIGNIFICANT	HIGHLY SIGNIFICANT	NOT SIGNIFICANT
Z value	-19.887	28.698	13.931

Table 9: Labor room receiving vs willingness for admission before and during pandemic

Patients not willing for admission increased from 36.2% during pre-covid to 68.2% during covid time. However, the change in labor room receiving as a

percentage of total ANC's compared to pre-covid era has not significantly changed.

LR RECEIVING	Not willing for admission	Admitted patients	Total
Pre COVID	800	2208	3008
Post COVID	421	1293	1714
RELATIVE PERCENT IN PRE COVID	6.69	18.47	25.17
RELATIVE PERCENT IN Post COVID	3.6	11.06	14.67
PERCENTAGE DECREASE	47.38	41.45	43.02
p VALUE	0.0014	0.0001	0.0001
SIGNIFICANCE	Highly significant	Highly significant	Highly significant
Z value	-2.981	-16.247	-15.470

Table 10: Labor room receiving vs. willingness for admission before and after pandemic

Labour room receiving pattern that is the patient coming in emergency time showed a significant change in admission pattern. Patients not willing for admission decreased from 36.2% during pre-covid to 32.5% post covid time. The admissions were still less than mean as compared to pre-covid phase.

## VI. CONCLUSION

- There was a significant drop of 73.2% in OPD cases in OBGY patients in COVID era starting from the later part of March 2020 which came up in the post COVID era but deficit of 16.38% persisted
- Patients tended to visit the hospital mostly for such unavoidable cases as ANC (88.15%) whereas treatment of other ailments was deferred. Fear post COVID continued.
- Confinements also reduced by 66.4%. The relative ratio of LSCS to normal deliveries remained same which get picked up but lagged by 26.46% which was greater lag than OPD footfall.
- There was no significant difference in proportion of booked patients and patients from outside though the total numbers significantly decreased by 68.15% and 67.36% respectively. Just as the pandemic phase the MGM booked patients were significantly less during post pandemic phase as well which was due to fear of being a COVID center during the pandemic
- The delayed reporting by the patients also caused relative increase in abortions for cases with foetal age >12 weeks mostly due to late detection of fetal anomalies. Though the

number of abortions decreased by 72.4% lag still persisted in the post pandemic phase.

- During Covid time, patients visiting the hospital were largely those who required hospitalization and operative treatment.
- In totality, the Covid pandemic adversely impacted the number of patients in the OBGY practice of MGM Hospital which is a Tertiary Healthcare Centre.

## REFERENCES

- [1.] Biradar M S. COVID-19: The role of tertiary care teaching hospitals in India. *BLDE Univ J Health Sci* [serial online] 2020 [cited 2021 Mar 7];5:1-2.
- [2.] Chico-Sánchez P, Gras-Valentí P, Mora-Muriel JG, Algado-Sellés N, Sánchez-Payá J, Llorens P; Grupo de Trabajo COVID-19 del Servicio de Medicina Preventiva; Grupo de Trabajo COVID-19 de la Comisión de Infecciones. Impact of the COVID-19 pandemic on health care workers in a tertiary care hospital emergency department. *Emergencias*. 2020 Ago;32(4):227-232. English, Spanish. PMID: 32691999.
- [3.] Madkhali AM, Al Ghamdi SO, Al-Sum H, et al. Framework for obstetrics and gynecology department change management in response to COVID-19 pandemic: A tertiary center experience. *Ann Thorac Med*. 2021;16(1):57-63. doi:10.4103/atm.ATM\_602\_20
- [4.] Baser A, Gupta A, Sharma S, Kumar S. An experience with COVID-19 positive pregnant patients at a tertiary care center. *Int J Reprod Contracept Obstet Gynecol* 2021;10:1463-7.