



Retrospective Study On Difference In Maternal Mortality And Morbidity Before And After Covid Lockdown

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Abstract

Introduction-

The COVID-19 pandemic has grossly affected the lives of people since its onset in December 2019 across the world .The pandemic resulted in major changes in government policies, including the healthcare system. There have been curfew restrictions in hot-spot areas, and certain places have become containment zones from where a large cluster tested positive for coronavirus. This also led to poor or inadequate delivery of many services, especially the health services. This mass restriction of activities was intended to prevent community spread of the infection and to allow for preparedness of the medical services for the pandemic. On the other hand, the routine healthcare system was disrupted and people faced problems when seeking medical advice. Although COVID-19 disease itself does not cause increased maternal mortality compared to the general population directly, unsupervised pregnancies and the absence of routine antenatal visits may have indirect adverse effects on maternal health. During epidemics in the past, health systems were crippled to provide routine services to a large extent due to the sudden increase in demand and the redirection of the workforce towards the epidemics. Hence, the utilization of routine health services significantly reduces during every outbreak . As has already been said by WHO, "People, efforts, and medical supplies all shift to respond to the emergency. This may lead to the neglect Accepted Article This article is protected by copyright. All rights reserved of routine essential health services. People with health problems unrelated to the epidemic find it harder to get access to health care services"

Objective-primary objective was To study effect of covid lockdown on pattern of maternal mortality and secondary objective was to study other parameters like effect on total opd attendance admission delivery rate and maternal morbidity.

Methods- A retrospective observational single-center comparative study was performed, including all antenatal and parturient women admitted from April 2019 to march 2020 and April 2020 to march 2021 Data were collected regarding number of admissions, deliveries, reason for inaccessibility health care, and complications during pregnancy and maternal mortality.

Results: There was a reduction of 28 percent in admission and 27 percent in institutional deliveries although lscs rates were same. 72 percent decrease in routine gynaecological surgeries There were increase in high-risk pregnancy during the pandemic. The main reason for delayed health-seeking was lockdown and fear of contracting infection, resulting in of pregnancies with complications. One-third of women had inadequate antenatal visit.

27 percent decrease in maternal mortality but referrals increased and increase in patients with more deteriorated condition.

Conclusion: Although COVID-19 disease does not directly affect pregnancy outcomes, it has indirect adverse effects on maternal and fetal health due to decreased antenatal visits, delay in seeking healthcare. Emergency obstetric and antenatal care are essential services to be continued with awareness of people while maintaining social distancing and personal hygiene.

Keywords:

Introduction

COVID-19, first documented in Wuhan, China at the end of 2019 1, has rapidly spread across the globe, infecting tens of millions of individuals 2. While sex-disaggregated data on severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) mortalities suggest it poses more severe health outcomes for men

than women 3, there are concerns that the disease could disproportionately burden women in a social and economic sense. Furthermore, it is a particularly salient question whether pregnant women are more susceptible to infection with SARS-CoV-2 or have more severe disease outcomes. Outside of direct infection, the impact of the pandemic and pandemic-control policies on healthcare infrastructure,

societies, and the global economy may also affect maternal health. Pregnant women and new mothers are a unique population, with particular mental and physical healthcare needs who are also particularly vulnerable to issues such as domestic violence. Finally, the impact of the COVID-19 pandemic is likely to be context specific, and differ depending on a variety of country-specific factors. A global pandemic is likely to only reveal its consequences after significant time passes, and literature published before or immediately after policies are implemented may not capture all relevant outcomes. The aim of this study is to assess effect of COVID lockdown on pattern of maternal mortality and to study other parameters like effect on total OPD attendance admission delivery rate.

MATERIAL AND METHODS

A retrospective observational single-center comparative study was performed, in department of obstetrics and gynecology, Shyam Shah Medical College, Rewa (M.P) including all antenatal and parturient women admitted from October 2019 to March 2020 and April 2020 to September 2021. Data were collected regarding number of admissions, deliveries, reason for inaccessibility, health care, and complications during pregnancy and maternal mortality.

High risk women were given priority and called more frequently as needed. More over emergency services were continued and patients were treated whether they were registered or not. Any delays in routine antenatal checkup and reasons for delay were noted in all pregnant or delivered women during the COVID-19 period. The effect of delay in seeking to health care on maternal complications was assessed. The data entry was carried out using MS Excel Software and analyzed using SPSS version 21 (SPSS Inc., Chicago, IL, USA). The descriptive and analytical statistics are presented in frequency tables and graphs. The categorical variables were briefed as numbers and percentages. $P < 0.05$ was considered statistically significant.

RESULTS

1505 pregnant women were admitted to the Department of Obstetrics over a period of 6 months before lockdown, while after lockdown 1090 pregnant women were admitted during the COVID-

19 pandemic. There was 27.5% reduction in admission rate of pregnant women. 1322 cases were delivered before lockdown while 960 cases delivered after lockdown. There was 27% reduction in number of deliveries before and after lockdown implementation. Mean ICU stay was increased. Mortality was also increased by 29% (0.06% to 0.36%). There was significant difference in number of admissions, deliveries and high risk pregnancies. While no significant difference in mean ICU stays and mortality before and after lockdown period.

From the end of March to the middle of May, the country was undergoing a strict lockdown during which transportation was badly affected. This was reflected in the significant fall in the number of institutional deliveries during April and May. When compared with pre-COVID-19 times, this is a fall was less in the number of deliveries at the study center.

During the pandemic, it was found that there was a decrease in the number of high-risk pregnancy admission. In comparison to 894 (59.4%) high-risk admissions in pre-COVID-19 times, the institute had 608 (55.7%) high-risk admissions to the hospital during the pandemic. 71 patients were referred from other hospitals due to the presence of high-risk factors. There were one maternal mortality in these 6 months before lockdown while there were four maternal deaths in these 6 months after lockdown. 55 pregnant women were positive for COVID-19 in the described time frame; of them, 20 were referred to as COVID-19-positive pregnancies.

Of the 608 high-risk pregnancies during the pandemic, 229 had complications and 125 had one or more complications aggravated by the delay in seeking health care. Anemia was overlooked in most women, followed by pregnancy-induced hypertension. It was observed that most of the patients preferred to wait at home until labor or preferred home deliveries during the pandemic. There were 12 postdated pregnancies during this time and many patients were received in an advanced stage of labor. In addition, a significant number of patients were seen with eclampsia, acute renal injury and pneumonia.

The main reason for delayed health-seeking was lockdown and fear of contracting infection, resulting in of pregnancies with complications. One-third of

women had inadequate antenatal visit. Referrals increased and increase in patients with more deteriorated condition was observed after lockdown.

Table 1- Comparison of statistics in Pre COVID 19 and COVID 19 periods in department of obstetrics and gynecology

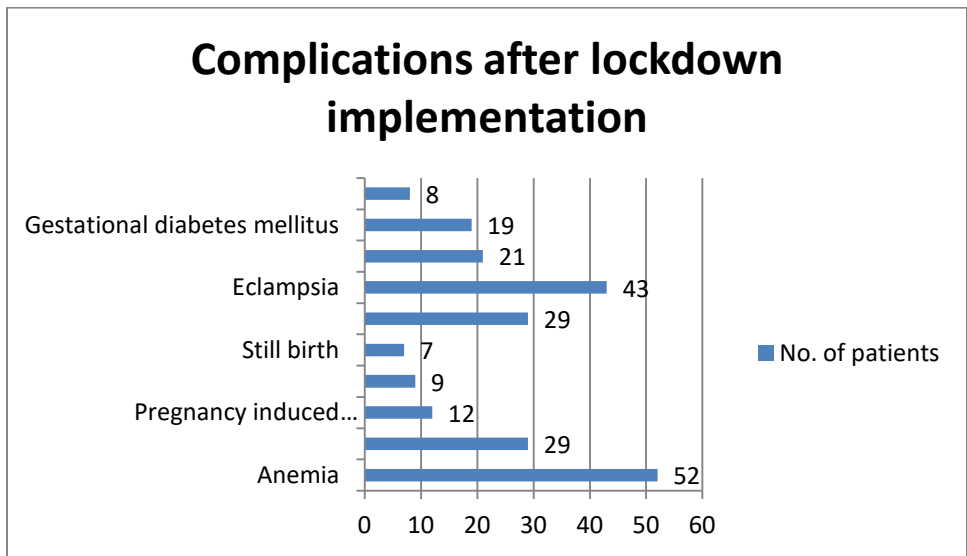
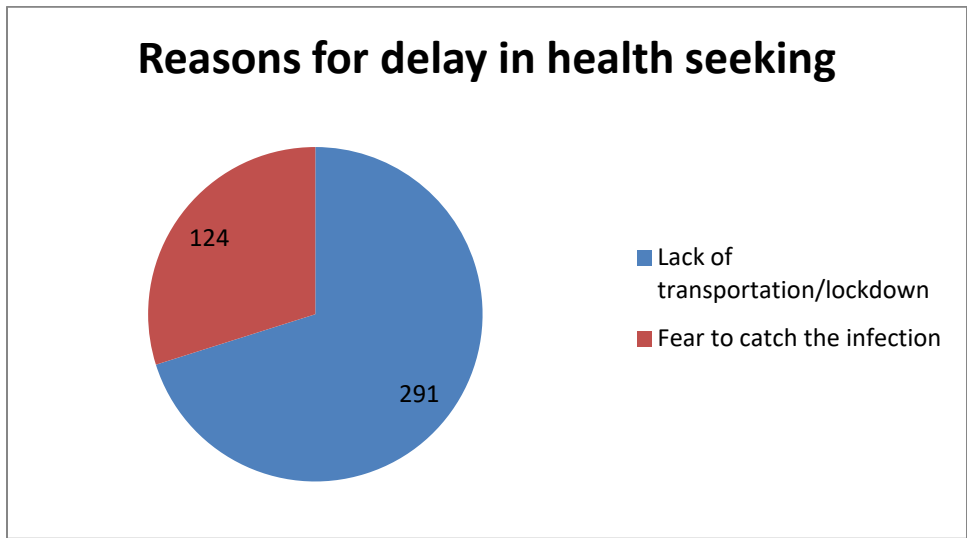
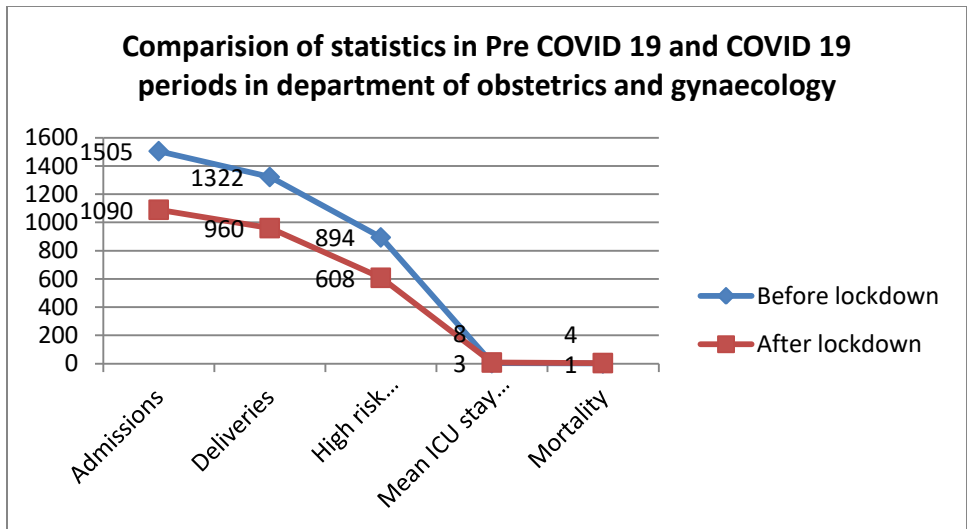
	Before lockdown	After lockdown	P value
Admissions	1505	1090	<0.05
Deliveries	1322	960	<0.05
High risk pregnancies	894	608	<0.05
Mean ICU stay (days)	3	8	>0.05
Mortality	1	4	>0.05

Table 2- Reasons for delay in health seeking

Reason for delays	No. of patients (415)
Lack of transportation/lockdown	291
Fear to catch the infection	124

Table 3- Complications missed due to delays in health seeking

Complication	No. of patients
Anaemia	52
Postdatism	12
Pregnancy induced hypertension	29
Acute renal injury	9
Still birth	7
Antepartum hemorrhage	29
Eclampsia	43
Pneumonia	21
Gestational diabetes mellitus	19
CNS complication	8



DISCUSSION

. The present study shows that COVID-19 definitely has indirect effects on pregnancy outcomes. It was

found that there was a drastic decline in the number of institutional deliveries, especially during the period of strict lockdown. The women preferred home deliveries or deliveries at a nearby health facility, due to either inaccessibility, lack of transport, or fear of infection from big institute. Widespread disruption of the healthcare system and reduced access to hospitals, foods have affected maternal outcomes and may continue to have an impact in the future. Countries such as India expect to see a large increase in maternal and child deaths. This lockdown or stay-at home policy has also affected the population economically, leading to reduced purchasing power of society, thus increasing the delay in seeking healthcare facilities.

When examined on a larger scale, such a major fall has challenged international safe motherhood programs. The reduced number of antenatal visits and institutional deliveries will lead to a marked increase in pregnancies with complications and the need for intensive care. The main reason for admission to the ICU in the present study was an increase in morbidities such as multiorgan failure and acute renal failure. An increase in the rate of maternal mortality was also observed. Thus, it appears that the COVID-19 pandemic will indirectly cause a major setback to the international efforts of achieving sustainable development goals.

In the study by Davis et al 4, it was found that women are preferring home deliveries instead of institutional deliveries in the fear of infection from institutes. However, this should only be accepted in women who are considered low risk. The main reasons behind the home deliveries was the patients avoiding visiting hospitals until an emergency due to transportation issues and difficulty in approaching care providers.

The reason for the delay in health-seeking was the strict lockdown for half of the women and their inability to leave the containment zone. This has not been elaborated in the literature so far. India is a middle-income country where illiteracy and ignorance about routine antenatal care are prevalent—this was the third reason for the delay in seeking health care. Lockdown and fear of catching infections due to hospital visits have worsened the scenario. Some patients avoided investigations and antenatal ultrasounds, such as anomaly scans, to

reduce the risk of exposure, even after a routine antenatal visit.

Fakari et al 5 observed that COVID-19 has increased the stress and anxiety of pregnant women, which can indirectly cause an increase in the number of patients with pre-eclampsia, nausea and vomiting, preterm labor, and depression. Some additional concerns of the women in the study are the arranging of a birth attendant, excessive use of detergents and sanitizers{alcohol based} that may cause skin problems and toxicity, avoidance of hospital visits, and issues relating to the postpartum period, India has rapidly prepared for this pandemic by increasing the number of beds, manufacturing and providing personal protective equipment (PPE), and setting policies for treatment and antenatal checkups. However, ignorance in society has made COVID-19 a devastating pandemic with an exponential rise in the number of cases where the worst is yet to come 6. This is causing an increase in hospital occupancy and the need to rapidly expand the healthcare facility. This can lead to major detrimental effects on maternal and child health.

Lastly, the small sample size and observational nature of the study affected the detailed analysis of other independent predictors of patient delay. Large multicentric studies and worldwide surveys are needed to confirm these findings and better preparedness of obstetrics.

CONCLUSION

Although COVID-19 disease does not have direct effect on pregnancy outcomes till now, it has indirect adverse effects on maternal and fetal health due to decreased antenatal visits, delay in seeking healthcare. Emergency obstetric and antenatal care are essential services which has to be continued with awareness of people, while maintaining social distancing and sanitary measures.

As in other pandemics, the healthcare system faces a great challenge during the COVID- 19 pandemic, having its indirect effects on the vulnerable antenatal group and an increase in pregnancy-related complications. Along with improvement healthcare services, there is the need to educate patients and make them aware about the importance of regular visits, precautions such as physical distancing, wearing masks, and personal hygiene and cleanliness

like frequent handwash . Leaving the home should be avoided but not at the cost of compromising health.

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