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Effect of COVID -19 pandemic on still births.

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Abstract

Introduction: The COVID-19 pandemic is testing the strength of the strongest medical management in the globe. In developing countries, this contagious disease is quickly spreading in the midst of various endemic medical conditions like HIV, tuberculosis, jungle fever, lack of healthy sustenance, and incessant episodes of rampant contaminations. This happens especially in a setting of frail healthcare systems which may scarcely adapt to the previously mentioned existing medical challenges.

Purpose: The objective of this research is to examine the impacts of pandemic of COVID-19 on the stillbirth rates.

Methodology: Study was conducted at department of obstetrics and gynecology Unit Gynae C Lady Reading Hospital Peshawar from 1st January 2019 to 31st August 2020. This comparative cross sectional study was carried out at using non probability consecutive sampling technique.

Findings: A large number of patients admitted with the diagnosis of stillbirth during 2019 and 2020 were multiparas 57% and 62% respectively. Booking status was 64% during 2019 and dropped to 52% in pandemic year 2020. Percentages of stillbirth due to abruption, placenta previa, gestational diabetes mellitus (GDM), type II diabetes, malpresentation, intrauterine growth restriction (IUGR), obstructed labor, eclampsia, postdates and unknown causes in 2019 and 2020 have been given in the table.

Keywords: *Effect, Covid -19, pandemic, still births.*

INTRODUCTION

The decline of around 45% in essential maternal and kid health services, for a considerable length of time would bring about 157,000 extra child death and 56,700 extra maternal deaths [1]. Elsewhere, the aberrant effect of the COVID-19 outbreak on mother and infant health in some countries such as India, Indonesia, and Pakistan more than a year was estimated [2]. An approximation of 766,180 extra deaths (31,980 maternal deaths, 395,440 infant deaths, and 338,760 stillbirths) across these nations would compare to 31% increment in mortality[3]. This brings issues to light of tortuous effects of the outbreak in developing countries, the distraught countries all over the world [4].

In 2016, WHO dispatched novel rules suggesting contacts in pregnancy which are at least eight month, it was relied upon proof that this expanded number of contacts is connected with lowered prenatal deaths ANC rules to space (and accepted lessen) the quantity of contacts to one at regular intervals rather than months to visit [5], or deferring the post pregnancy visit to 90 days after conveyance (along these lines done establishing a post pregnancy visit). With an ordinary gestational age at first the ANC visit of 24 weeks, this new suggestion deduces that various pregnant women will go to an essential preventive medical organization simply a solitary time during their pregnancy [6]. The repercussions for maternal and neonatal health are presumably going to be immense

The Covid-19 worldwide health emergency crisis has led to increasing concerns about maternofetal outcomes resulting from indirect effects, especially in the developing world countries [7]. These indirect effects include closure of elective obstetrical services, reluctance to attend the hospital when needed because of fear of contracting infections and also not wanting to add a burden to the hospitals, the diversion of resources and the lock downs especially in the developing world countries. Several COVID-19 related considerations could have contributed to this increase: the reluctance of both low-risk and high-risk patients to enter a hospital setting during a pandemic, along with safety-centered changes made in antenatal services and care, which includes a reduced number of ultrasounds and screening examinations[8]. Checking a patient's blood pressure, weight changes, baby growth, etc are just cannot be performed by telemedicine [9,10].

The present study was carried out with the aim of determining any change in the rates of still births at a tertiary care hospital during Covid-19 pandemic and provision of data for effective modifications to antenatal care projects during the ongoing health crisis.

METHODOLOGY

This was a cross-sectional study. It was conducted in the OBGYN department of Lady Reading Hospital. Approval was taken from the ethical review board of the hospital. The sample size of 200 was calculated using www.epi.online calculator taking proportion of stillbirth as 16%, 95% confidence interval and 5% margin of error. The sampling was done by a non-probability consecutive method. All the pregnant patients at term gestation who delivered (irrespective of modes of delivery) and had still Births were enrolled in the study. Patients with Twin pregnancy, fetal anomalies and early neonatal deaths were excluded from study. Informed consent was taken from all patients. Various parameters including age, parity, gestation, any medical conditions, Number of antenatal visits, the presence of (PROM, APH) ,fetal birth weight were all recorded on pre designed Performa.

Data was collected by retrospective analysis of all patients who were admitted with the diagnosis of stillbirth during 2019 (pre Covid pandemic) and 2020(during Covid). Required information was entered on a predesigned proforma. The Chi square test was applied to determine the difference of stillbirth due to various causes in year 2019 and 2020. P value of 0.05 was regarded as statistically important.

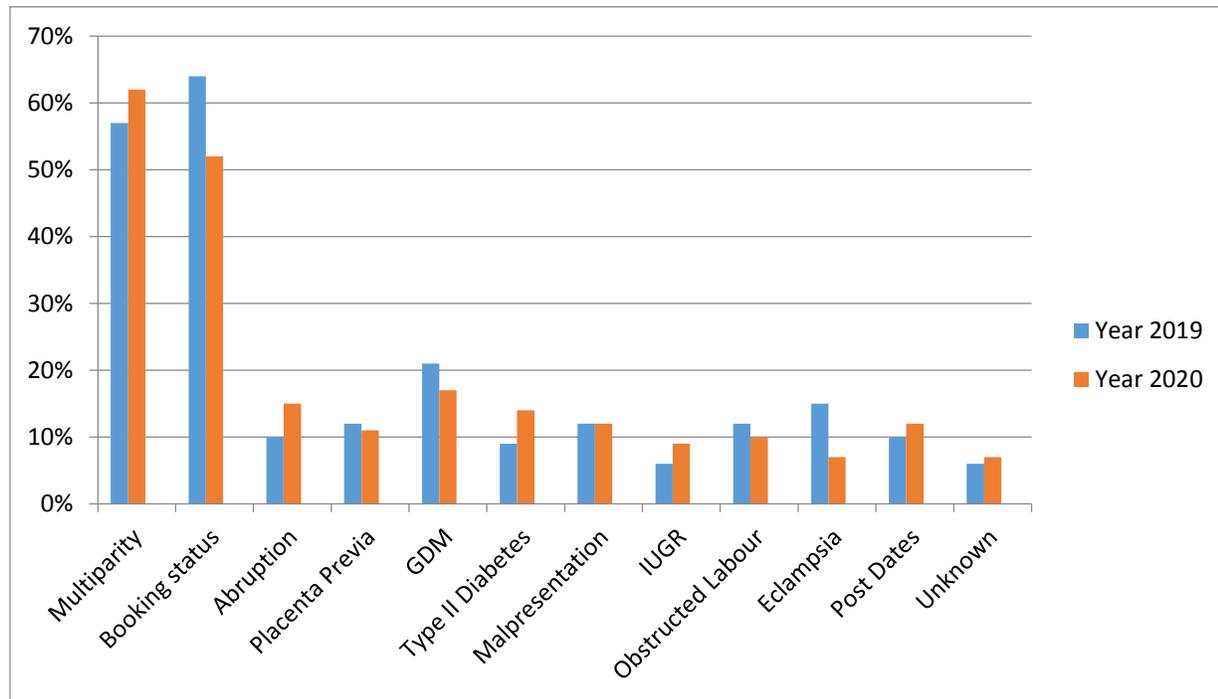
RESULTS

A large number of patients admitted with the diagnosis of stillbirth during 2019 and 2020 were multiparas 57% and 62% respectively. Booking status was 64% during 2019 and dropped to 52% in pandemic year 2020. Percentages of stillbirth due to abruption, placenta previa, gestational diabetes mellitus(GDM), type II diabetes, malpresentation, intrauterine growth restriction (IUGR),obstructed labor, eclampsia, postdates and unknown causes in 2019 and 2020 have been given in the table.

Table 1: Demographic Characteristics and Causes of Stillbirths Prepandemic and Pandemic Covid-19.

Features	2019 N=70		2020 N=130		P value
	No	Yes	No	Yes	
Multiparity	30(43%)	40(57%)	50(38%)	80(62%)	0.0001
Booking status	25(36%)	45(64%)	62(48%)	68(52%)	0.001
Abruption	63(90%)	7(10%)	110(85%)	20(15%)	0.0001
Placenta previa	58(83%)	12(17%)	116(89%)	14(11%)	0.003
GDM	55(79%)	15(21%)	108(83%)	22(17%)	0.01
Type II Diabetes	64(91%)	06(9%)	112(86%)	18(14%)	0.01
Malpresentation	62(88%)	04(12%)	115(88%)	15(12%)	0.01
IUGR	66(94%)	04(6%)	119(91%)	11(9%)	0.02
Obstructed labor	62(88%)	08(12%)	118(90%)	12(10%)	0.019
Eclampsia	60(85%)	10(15%)	121(93%)	09(07%)	0.004
Unknown	66(94%)	04(06%)	121(93%)	09(07%)	0.02
Postdates	63(90%)	07(10%)	114(88%)	16(12%)	0.067

Table 2: Comparison Of Stillbirths Prepandemic And Pandemic Covid-19



Discussion

As more and more is being learnt regarding the effects of Covid pandemic and its effects on pregnant population, more evidence is collected regarding Covid and an adverse pregnancy outcome either by direct infection or by the indirect impact of the Covid. This study shows that there is acceleration in the ratio of stillbirths during pandemic in contrast to period with no pandemic.

In current study status 64% during 2019 and dropped to 52% in pandemic year 2021 showing a significant reduction in antenatal visits by the pregnant population during the Covid pandemic. Reasons being repeated lockdowns restricting movements of antenatal patients and accessibility to hospitals. Moreover, medical services in the hospitals as only emergency patients were provided during the pandemic could be another reason of reduced antenatal visits. Disturbance to medical administrations, cross country lockdowns, and dread of going to medical services offices uncover how the unfriendly impacts of COVID-19 suggest health results that stretch out past the deaths and infection brought about by the actual virus.

This reduction in routine antenatal visits has in turn led to an increased fetal compromise and increased stillbirth rates as depicted in table 1. As in all other specialties' booking appointments were significantly reduced in obstetrics also. Jardine Obstetric recommends females are having great risk of these complications. Although the Covid status of all the reviewed patients was not available from the reviewed record, there might be some subclinical Covid infections in these patients which due to increased thrombogenic effect lead, to some degree, uteroplacental insufficiency leading to intrauterine growth restrictions, PIH, abruption placentae or chronic fetal hypoxemia leading to fetal compromise and in severe cases even fetal demise.

Although severe Covid 19 infections have been linked to increased stillbirth rate in current data stillbirths caused by direct Covid infections have not been included. Thus it measures the overall effect of pandemic causing lockdowns in the region, on the stillbirth rate. Increased still births in type 2 diabetics may be due to the fact that due to limited health care services in the pandemic the proper blood glucose monitoring and diabetic control was not achieved thus leading to complications from uncontrolled diabetes like macrosomia, polyhydramnios and even unexplained term still births. Various protocols have been devised to improve the outcomes in diabetic patients during the pandemic.

Some stillbirths in fetuses with mal-presentation included breech and neglected transverse lie. Again these were the patients who landed up in an emergency without prior antenatal visits. Timely, external cephalic version was not offered to these patients, and these presented in advanced labor in an emergency with hand and cord prolapse. There was a significant increase in number of cases of obstructed labour due to miss-management of the initial stages of labour or the patients were not properly evaluated for a trial of labour, cephalopelvic disproportion as no proper antenatal visits were carried out.

The stillbirth rate in post-dates pregnancies was not statistically significant in patients delivered in our tertiary care setting. Yet there would be a number of patients who were either unable to reach to the hospital in time in the pandemic lockdowns and had postdates pregnancies. These patients would have delivered at the periphery or the primary care setting or home deliveries by Trained Birth Attendants, traditional birth attendants or even unattended Obstetric arrangements for ladies at higher danger of complexities 23 (28.4) Reduced number of antenatal arrangements a 57 (70.4) Routine birthing assistant drove antenatal arrangements b 43 (53.1) Maternal medication administration arrangements 18 (22.2) Fetal medication administration arrangements 20 (24.7) Specialist maternity care arrangements 21 (25.9) Any antenatal arrangements. There was no reported stillbirth in a Covid positive patient during this study period although most indirect causes may be incriminated in still births during the pandemic

Conclusion

Few earlier studies have found no increase in the stillbirth rate, but now severe Covid 19 infections have been linked to increased stillbirth rate, in current data stillbirths caused by direct Covid infections have not been included. Thus it measures the overall effect of pandemic causing lockdowns in the region, on the stillbirth rate. Overall the healthcare has changed during the pandemic. Compared with before the COVID-19 lock-down, the quantity of institutional births was decreased by roughly half and discovered an altogether expanded danger of preterm birth, institutional stillbirth, and neonatal mortality during lockdown.

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