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ORIGINAL ARTICLE

Fetal and Maternal Outcome Asymptomatic vs. Symptomatic Covid Positive Pregnant Women

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ABSTRACT

Objective: The aim of this study is to compare the fetal and maternal outcomes in between asymptomatic and symptomatic COVID positive pregnant women.

Study Design: Retrospective cohort study

Place and Duration: The study was conducted at Gynae and Obs department of Sandeman Provincial Hospital, Quetta for duration of six months from November 2020 to April 2021.

Methods: One hundred and ten pregnant women with ages 18-45 years had corona virus disease were presented. Informed written consent was taken from all patients for detailed demographics. COVID -19 was diagnosed by PCR. 55 patients had symptoms of coronavirus were included in group A and 55 patients did not show symptoms were included in group B. Frequency of pre-eclampsia, gestational diabetes mellitus and post-partum haemorrhage were calculated. Maternal adverse outcomes (cesarean section, instrumental delivery, induction of labor and prolong labor, hypertensive disorder) were calculated among both groups. Fetal outcomes perinatal mortality, Low birth weight, Low Apgar score and NICU admission were observed. SPSS 20.0 version was used to analyze all data.

Results: Mean age of the patients in group A was 28.47±3.18 years with mean BMI 24.03±5.24 Kg/m^2 and in group B mean age was 27.99±4.17 years with mean BMI 24.44±6.41 Kg/m^2. Maternal outcomes (cesarean section, instrumental delivery, induction of labor and prolong labor,) in symptomatic group were significantly higher than that of asymptomatic group. Fetal outcomes, perinatal mortality in group A 9 (16.4%) and in group B was 5 (9.1%), low birth weight in group A was among 21 (38.2%) and in group B was 10 (18.2%), low apgar score in group A was 11 (20%) and in group B was 8 (14.4%), 15 (27.3%) in group A went to NICU admission and 3 (5.5%) patient in group II admitted to NICU.

Conclusion: In this study we concluded that adverse outcomes among symptomatic COVID pregnant women were higher than that of asymptomatic coronavirus pregnant women in terms maternal and perinatal outcomes.

Keywords: Pregnant women, Coronavirus, Symptomatic, Asymptomatic, Adverse Outcomes

INTRODUCTION

Around 80 percent of the five million persons who have tested positive with SARS-CoV-2 as of May 2020 had minor or no symptoms, according to the World Health Organization. [1] Approximately 4 million individuals throughout the globe fall into this group right now. Pregnant women who are asymptomatic or slightly sick are outnumbering those who are hospitalised, according to these and other figures. A survey from New York City on 43 pregnant women who tested positive for SARS-CoV-2 during a two-week period in March, 2020, revealed that 86 percent of COVID-19 pregnant patients presented with minimal or no viral-associated symptoms. [2] According to reports from China and Europe, pregnant women with moderate symptoms outweigh those with severe symptoms. However, current research focuses on instances that were serious enough to need hospitalisation. Maternal and perinatal mortality, maternal-to-fetus transmission, and newborn health outcomes are examined in these research. [3,4] For the vast majority of women who are either asymptomatic or very minimally symptomatic, there is still a lack of information on the infection's effects. Elective premature caesarean sections are becoming more common, according to a new study. Regardless of the intensity of the symptoms, the health of the mother and foetus should be closely monitored throughout the three trimesters. Obstetric practises need more evidence to guide them.

An increased risk of difficulties for pregnant women is associated with altered immunity, decreased respiratory capacity, cardiovascular and hemodynamic abnormalities, as well as injury to the fetus/newborn. In spite of initial reports from the SARS-CoV-2 outbreak suggesting that pregnant women's clinical course resembled that of the general population, more recent data show that pregnant women are at an increased risk of catastrophic outcomes compared to the general population at the same age. [6-7]

Pulmonary diseases, hypertension, and diabetes have been linked to catastrophic outcomes in the general population. Even while research suggests that these variables may have an influence on how severe the illness becomes in pregnant women, we don't know much about how they affect the disease itself or other risk factors unique to pregnancy.

[9] Additional research is needed to better understand the possibility for fetal/newborn concerns, since vertical transmission seems to be feasible and placental infection may be present,[10] while a considerably increased prevalence of preterm births (25–30 percent) has been documented among women with COVID-19. [11,12] Pregnant women's individual health risks need to be studied in order to provide evidence-based recommendations for their care. To do this, we built an international web registry. Pregnant women and their unborn children who have been exposed to SARS-CoV-2 will be monitored beginning in March 2020 as part of a coordinated data gathering effort. [14]

For pregnant women with confirmed SARS-CoV infection, we conducted a retrospective cohort research to evaluate the likelihood of severe maternal outcomes and associated risk variables as well as a description of pregnancy/neonatal outcomes stratified for the severity of the illness.

MATERIAL AND METHODS

This retrospective cohort study was conducted at Gynae and Obs department of Sandeman Provincial Hospital, Quetta for duration of six months from November 2020 to April 2021. The study consisted of 110 pregnant women who had coronavirus. Informed written consent was taken from all patients for detailed demographics. Women had cardiac disease, <18 years and those did not provide written consent were excluded from this study.

Pregnant women were aged between 18-45 years. Patients were split into 2-groups. For the SARS-CoV-2 swab test, a nasopharyngeal RT-PCR was used on the mothers. At any time throughout pregnancy, pregnant women who had positive results on an RT-PCR test regardless of clinical signs and symptoms were deemed to have an infection. 55 patients had symptoms of

coronavirus were included in group A and 55 patients did not show symptoms were included in group B. Frequency of pre-eclampsia, gestational diabetes mellitus and post-partum haemorrhage were calculated. Maternal adverse outcomes (cesarean section, instrumental delivery, induction of labor and prolong labor, hypertensive disorder) were calculated among both groups. Fetal outcomes perinatal mortality, Low birth weight, Low Apgar score and NICU admission were observed. SPSS 20.0 version was used to analyze all data. Frequency and percentage was used for categorical variables. Mean standard deviation was used.

RESULTS

Mean age of the patients in group A was 28.47±3.18 years with mean BMI 24.03±5.24 Kg/m^2 and in group B mean age was 27.99±4.17 years with mean BMI 24.44±6.41 Kg/m^2. Mean gestational age of group A was 33.47±6.24 weeks while in group B mean gestational age was 34.19±8.14 weeks. Mean parity in-group I was 3.88±4.19 while in group B it was 4.08±1.64. 35 (63.6%) women were completely vaccinated in group A and in group B 32 (58.2%) females were vaccinated. (table 1)

Table 1: Characteristics of presented cases

Variables	Symptomatic (A)	Asymptomatic (B)
Mean age (years)	28.47±3.18	27.99±4.17
Mean BMI (kg/m^2)	24.03±5.24	24.44±6.41
Mean gestational age (weeks)	33.47±6.24	34.19±8.14
Mean Parity	3.88±4.19	4.08±1.64
Vaccination status		
Yes	35 (63.6%)	32 (58.2%)
No	20 (36.7%)	23 (41.8%)

Frequency of pre-eclampsia in group A were high among 24 (43.6%) patients as compared to group B 13 (23.6%) patients, frequency of gestational diabetes mellitus in group A was among 14 (25.5%) patients and 7 (12.7%) patients were in group B, post-partum haemorrhage was seen in 31 (56.4%) cases in group A and 22 (40%) cases in group B. (table 2)

Table 2: Prevalence of post-partum haemorrhage, pre-eclampsia and gestational diabetes mellitus

Variables	Symptomatic (A)	Asymptomatic (B)
Pre-eclampsia		
Yes	24 (43.6%)	13 (23.6%)
No	31 (56.4%)	42 (76.4%)
Gestational Diabetes		
Yes	14 (25.5%)	7 (12.7%)
No	41 (74.5%)	48 (87.3%)
Post Partum Haemorrhage		
Yes	31 (56.4%)	22 (40%)
No	24 (43.6%)	33 (60%)

Maternal outcomes (cesarean section, instrumental delivery, induction of labor and prolong labor) in symptomatic group were significantly higher than that of asymptomatic group.(table 3)

Table 3: Frequency of maternal outcomes

Maternal Outcomes	Symptomatic (A)	Asymptomatic (B)
cesarean section	20 (36.4%)	8 (14.5%)
instrumental delivery	10 (18.2%)	4 (7.3%)
induction of labor	13 (23.65)	6 (10.9%)
prolong labor	5 (9.1%)	2 (3.6%)

Table 4:

Fetal Outcomes	Symptomatic (A)	Asymptomatic (B)
perinatal mortality	9 (16.4%)	5 (9.1%)
low birth weight	21 (38.2%)	10 (18.2%)
low apgar score	11 (20%)	8 (14.4%)
NICU admission	15 (27.3%)	3 (5.5%)

Fetal outcomes, perinatal mortality in group A 9 (16.4%) and in group B was 5 (9.1%), low birth weight in group A was among 21 (38.2%) and in group B was 10 (18.2%), low apgar score in group A was 11 (20%) and in group B was 8 (14.4%), 15 (27.3%) in group A went to NICU admission and 3 (5.5%) patient in group II admitted to NICU. (table 4)

DISCUSSION

Pregnant women's mental health was negatively impacted during the onset of the COVID-19 pandemic since it was unclear how serious the threats were. Due to the fact that, in an early comprehensive review[15], only [16] studies with small sample sizes examined outcomes between pregnant women with and without COVID-19, there was a lack of transparency. In light of the well-documented dangers of other coronavirus infections during pregnancy, the issue is pertinent (eg, severe acute respiratory syndrome and Middle East respiratory syndrome).

In this retrospective cohort study 110 pregnant women with ages 18-45 years were included. 55 patients had symptoms of coronavirus were included in group A and 55 patients did not show symptoms were included in group B. Mean age of the patients in group A was 28.47±3.18 years with mean BMI 24.03±5.24 Kg/m^2 and in group B mean age was 27.99±4.17 years with mean BMI 24.44±6.41 Kg/m^2. Mean gestational age of group A was 33.47±6.24 weeks while in group B mean gestational age was 34.19±8.14 weeks. Findings of current research showed resemblance to the studies conducted in past.[17,18] Mean parity in-group I was 3.88±4.19 while in group B it was 4.08±1.64. 35 (63.6%) women were completely vaccinated in group A and in group B 32 (58.2%) females were vaccinated. As a last point of contention, the impact of the COVID-19 epidemic on pregnant women's mental health remains uncertain. Women who are pregnant are more likely to suffer from mental health issues such as anxiety or depression. There is a clear association between the degree of prenatal psychosocial stress and the risk of bad pregnancy outcomes in the sense that the more antenatal psychosocial stress, the greater the risk of poor pregnancy outcomes. As a result, even if pregnant women are not infected with COVID-19, their pregnancies may be affected.

Frequency of pre-eclampsia in group A were high among 24 (43.6%) patients as compared to group B 13 (23.6%) patients, frequency of gestational diabetes mellitus in group A was among 14 (25.5%) patients and 7 (12.7%) patients were in group B, post-partum haemorrhage was seen in 31 (56.4%) cases in group A and 22 (40%) cases in group B.[19] Maternal outcomes (cesarean section, instrumental delivery, induction of labor and prolong labor) in symptomatic group were significantly higher than that of asymptomatic group. Fetal outcomes, perinatal mortality in group A 9 (16.4%) and in group B was 5 (9.1%), low birth weight in group A was among 21 (38.2%) and in group B was 10 (18.2%), low apgar score in group A was 11 (20%) and in group B was 8 (14.4%), 15 (27.3%) in group A went to NICU admission and 3 (5.5%) patient in group II admitted to NICU.[20,21] According to the CRONOS registration website set up to collect complete data on COVID-19 moms who give birth in Germany, the caesarean rate is expected to be approximately 37.5 percent by the end of 2021. [22]

While Khalil et al. have demonstrated a rise in the number of stillbirths during the epidemic's height, they have not been able to identify whether this is due to the virus itself. There were still 37WG pregnancies that had been exposed in the first and second trimesters at the time of the study, indicating an easy path. In order to properly identify obstetric and neonatal outcomes, more research including such patients is required. [23] Finally, it seems that women who are pregnant, especially those who have comorbid conditions, are more likely to have severe consequences from SARS-CoV-2 infection. Mothers with a history of obstetric and neonatal problems, such as premature birth and neonatal ICU hospitalization, are more likely to have issues during childbirth.

CONCLUSION

In this study we concluded that adverse outcomes among symptomatic COVID pregnant women were higher than that of

asymptomatic coronavirus pregnant women in terms maternal and perinatal outcomes.

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