

Relation of COVID-19 infection to outcomes of pregnancy during the pandemic in Kirkuk city

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Abstract: *Based on what is known at this time, pregnant women are at an increased risk for severe illness from COVID-19 compared to non-pregnant women. Additionally, pregnant women with COVID-19 might have an increased risk of adverse pregnancy outcomes, such as preterm birth. The study was conducted in the city of Kirkuk city during the period between February 1, 2020, and September 1, 2020, at Gynecology and children hospital. Through the study, 100 pregnant women were received, complaining of Covid-19 infections, which were diagnosed in Kirkuk, and now Real Time PCR was confirmed through nasopharyngeal swabs that were taken from the Hospital. The study also included measuring the level of blood pressure, sugar and IL-6 in those women during the fifth to eight week, where we were infected, and then in the 12th week of pregnancy took place, where communication was made, and a level was measured, and as a result, these women who completed the period with a pre-term labor, miscarriage before the 24th week of pregnancy or those completed the period with successful pregnancy. The study showed that were asymptomatic, 45% of cases of COVID-19 patients were with mild infection and 10% were with severe infection (P<0.001) In this study, 10 % of COVID-19 pregnant women suffer from hypertension, 13% were with Diabetes, 35% with UTI while 70% were suffered from fever. When reaching 24th week of pregnancy, and as shown in Table 3. The study showed that 40% COVID-19 pregnant women experienced completed the period with a pre-term labor, 10% was with miscarriage before the 24th week of pregnancy, while 50% of them completed the period continued the pregnancy. In this study, 82.5 % of COVID-19 pregnant women with preterm labor were suffered previously from fever comparing with 55% of COVID-19 pregnant women without preterm labor. The study showed that the highest mean of serum IL-6 was found in women infected with COVID-19 comparing with healthy control (12.8±3.6 v.s. 29.3±3.1 ng/ml) (P: <0.001). Conclusions: The study showed a significant relation of COVID-19 infection with pregnant women who pre-term labor especially who have high body temperature.*

Keywords: COVID-19; pregnancy outcome; IL-6; Kirkuk city.

1. Introduction

The consequences of infection with SARS-CoV-2 among pregnant women are currently uncertain. Several hundreds of pregnant women in Hubei province were infected with SARS-CoV-2 based on infectious disease surveillance systems in Hubei province, China.

While several case series studies have analyzed the clinical symptoms and prognosis of COVID-19 cases, no population-based study so far has been conducted to examine the relationship between SARS-CoV-2 infection and adverse birth outcomes⁽¹⁾. Based on what is known at this time, pregnant women are at an increased risk for severe illness from COVID-19 compared to non-pregnant women. Additionally, pregnant women with COVID-19 might have an increased risk of adverse pregnancy outcomes, such as preterm birth⁽²⁾. As the Covid 19 virus is considered one of the most important diseases that have appeared in society and that do not affect all ages and genders, regardless of their living condition, but the role of immunity has a great role in expelling the virus or keeping it in a state that can multiply and affect a person's health⁽³⁾. There is no doubt that Corona injuries may lead to medicine for people, as the study indicated that Corona injuries are major problems, problems of pregnant women, which deal with miscarriage or early childbirth associated with high blood sugar or high blood pressure^(4,5). High temperatures in people with Covid virus 19 are tormented by one of the most important causes of respiratory disorder due to the high level of cytokinins like Interleukin 1 and Interleukin 6 and the C-reactive protein, which adversely affects the health condition through the cytokinin A storm in infected people^(6,7). TWhich may lead to health problems, especially in pregnant women, which may lead to abortion or premature labor in pregnant women⁽⁸⁾. The study aims to find the relationship between Covid 19 virus infections and early births in women infected with this virus in of Baghdad city.

2. Materials and methods

The study was conducted in the city of Kirkuk city during the period between February 1, 2020, and September 1, 2020, at Gynecology and children hospital. Through the study, 100 pregnant women were received, complaining of Covid-19 infections, which were diagnosed in Kirkuk, and now Real Time PCR was confirmed through nasopharyngeal swabs that were taken from the Hospital. The study also included measuring the level of blood pressure, sugar and C-RP in those women during the fifth to eight week, where we were infected, and then in the 12th week of pregnancy took place, where communication was made, and a level was measured, and as a result, these women who completed the period with a pre-term labor, miscarriage before the 24th week of pregnancy or those completed the period with successful pregnancy.

3. Results

The study showed that were asymptomatic, 45% of cases of COVID-19 patients were with mild infection and 10% were with severe infection (P<0.001), Table 1.

Table 1: Distribution of Covid-19 according to type of infection

Covid-19 cases	%
Asymptomatic	25
Mild	45
Moderate	20
Severe	10
Total	100

P. value <0.001

In this study, 10 % of COVID-19 pregnant women suffer from hypertension, 13% were with Diabetes, 35% with UTI while 70% were suffered from fever. (Table 2).

Table 2: Distribution of COVID-19 pregnant women according to different situations.

Variables	Present		Absent	
	No.	%	No.	%
Hypertension	10	10	90	90
Diabetes	13	13	87	87
UTI	35	35	65	65
Fever	70	70	30	30

When reaching 24th week of pregnancy, and as shown in Table 3. The study showed that 40% COVID-19 pregnant women experienced completed the period with a pre-term labor, 10% was with miscarriage before the 24th week of pregnancy, while 50% of them completed the period continued the pregnancy.

Table 3: Distribution of s COVID-19 pregnant women according to pregnancy outcomes

Pregnancy outcomes	Cases	
	No.	%
Miscarriage	10	10
Preterm labor	40	40
Continued pregnancy	50	50
Total	35	100

$X^2: 7.55$ P. value : 0.01

In this study, 82.5 % of COVID-19 pregnant women with preterm labor were suffered previously from fever comparing with 55% of COVID-19 pregnant women without preterm labor, Table 4.

Table 4.: Relation of Fever with preterm labor among COVID-19 pregnant women

Preterm labor	Fever (>38° C) at 5-8 th week of pregnancy				Total	
	Present		Absent		No.	%
	No.	%	No.	%		
Yes	37	82.5	3	10	40	100
No	33	55	27	45	60	100

P<0.001

The study showed that the highest mean of serum IL-6 was found in women infected with COVID-19 comparing with healthy control (12.8±3.6 v.s. 29.3±3.1 ng/ml) (P: <0.001).

Table 5: Levels of IL-6 in COVID-19 patients and the control group

Group	Mean (ng/ml)	SD	P value
COVID-19 patients	46.8	3.6	<0.001
Healthy group	29.3	3.1	

P<0.001

4. Discussion

Early studies have shown that physiologic and immunologic changes during pregnancy might increase the risk for pregnant women to be infected with respiratory viruses such as influenza^(6,7). Our study demonstrated that pregnant women with COVID-19 were more likely to have preterm birth babies. Considering all preterm babies were born to infected mothers were iatrogenic preterm birth due to intrauterine fetal distress, we examined the possibility that the elevated risk for preterm birth resulted from higher rates of elective and early cesarean sections, the positive association still exists among mothers with cesarean section. Previous studies have also shown that SARS and Middle East respiratory syndrome (MERS) infections are related to preterm birth, intensive care treatment for newborns, and even perinatal death^(8,9). It has been reported that pregnant women are more susceptible to be infected, develop more severe complications of the disease, and have higher mortality compared to the non-pregnant population⁽¹⁾. Using data from electronic health records, the study also examines associations between SARS-CoV-2 infection and adverse pregnancy outcomes. Researchers will determine the extent to which SARS-CoV-2 infection impacts pregnant women in underserved communities in New York City and will explore the role of maternal stress^(10,11). When reaching 24th week of pregnancy, and as shown in Table 3. The study showed that 40% COVID-19 pregnant women experienced completed the period with a pre-term labor, 10% was with miscarriage before the 24th week of pregnancy, while 50% of them completed the period continued the pregnancy. On the level of similarities, recent studies conducted this year indicated that most of the women infected with the Coronavirus, who were there during pregnancy, had suffered from pregnancy specialization disorders, including premature birth and abortion, as well as the problem of premature birth at least 40% of these women^(12,13). A study conducted in Wuhan stated that women infected with Coronavirus are more likely to have early labor due to the worsening of the health condition in pregnant women and due to elevated levels of cytokines that affect the baby health⁽²⁾. Regarding the pregnant women's age, fertile period, and length of pregnancy, the studies analyzed showed a wide variation and a lack of evidence of infection by SARS-CoV-2 during the first and second trimester of pregnancy. It can be inferred that, according to the low prevalence of severe infection among pregnant women (57/8%), many of them could be asymptomatic and/or with mild symptoms, without the need for hospital care, corroborating findings from previous viral pandemics^(14,15). Other scientists have instructed similar studies on high temperatures in patients with Covid 19 virus that may result from an elevated level of interleukin-16, CRP and TNF alpha^(16,17). The study showed the highest mean of C-reactive protein was present COVID-19 pregnant women with preterm labor (22.5 ± 2.14 mg/ml), fan lowest mean was in women who without preterm labor (14.6 ± 2.11 mg/ml) ($P < 0.01$), as shown in Table 5. There is no doubt that the level of the reactive protein, a type that is high in infections and viral on the limit of the reactive protein, the type of disease of people with Covid 19 virus is a sign of the task of secondary bacterial infections in the respiratory, upper and lower system of people, the virus, especially since the infected are pregnant women, and pregnant women are known to suffer Those who have it and the bacteria that infect them as a result these circumstances⁽¹⁸⁾.

5. Conclusions:

The study showed a significant relation of COVID-19 infection with pregnant women who pre-term labor especially who have high body temperature.

6. References

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