COVID-19 Infection and its Relation to Preterm Delivery in Pregnant Women

Mohammed Ismael Dawood[1], Rasha Shakir[2], Mohanned H. Alwan[3]

[1,2,3]*Lecturer, College of Medicine, University of Al-Fallujah, Iraq*

Abstract

The study aims to find the relationship between COVID-19 virus infections and early births in women infected with this virus in of Al-Fallujah city. The prospective study was conducted in Al-Fallujah city during the period between February 1, 2020, and September 1, 2020, at Al-Fallujah Teaching Hospital. Through the study, 100 pregnant women were received, complaining of Covid-19 infections, which were diagnosed in Al-Fallujah, and now Real Time PCR was confirmed through nasopharyngeal swabs that were taken from Al-Fallujah Teaching Hospital. The study also included measuring the level of blood pressure, sugar andC-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 whocompleted the period with a pre-term labor, miscarriagebefore the 24th week of pregnancy or those completed the period with successful pregnancy. In this study, 33% of COVID-19 pregnant women were within the age group 24-30 years followed by 30% in the age group 31-38 year. 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 miscarriagebefore the 24thweek 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 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).

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

Keywords: *COVID-19; Preterm delivery; pregnant women; C-reactive protein.*

Introduction

New Corona virus infections are considered one of the most deadly diseases in society these days, especially people who kill countries affected by the virus, and recent studies have indicated that there is a strong relationship between the high level of infection with Corona virus 19 failure to respect global health laws and follow the instructions that my son and use sterilizer and wash treatment With among people [(1)]. It is worth noting that one of the diseases associated with Virus Corona is chest infections and coughing that exacerbate cases of Covid 19 in society[(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

Corresponding Author:
Mohammed Ismael Dawood
Lecturer, College of Medicine, University of Al-Fallujah, Iraq

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 Al-Fallujah city.

Materials and Method

The study was conducted in the city of Al-Fallujah during the period between February 1, 2020, and September 1, 2020, at Al-Fallujah Teaching Hospital. Through the study, 100 pregnant women were received, complaining of Covid-19 infections, which were diagnosed in Al-Fallujah, and now Real Time PCR was confirmed through nasopharyngeal swabs that were taken from Al-Fallujah Teaching Hospital. The study also included measuring the level of blood pressure, sugar andC-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, miscarriagebefore the 24thweek of pregnancy or those completed the period with successful pregnancy

Results

In this study, 33% of COVID-19 pregnant women were within the age group 24-30 years followed by 30% in the age group 31-38 year(Table 1).

Table 1: Age characteristics of COVID-19 pregnant women

Age Groups (Years)	No (%)
17-23	20
24-30	33
31-38	30
39-45	17
Total	**100**

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 miscarriagebefore 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, Table 4.

Table 3: Distribution of sCOVID-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

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

Preterm labor	Fever (>38°C) at 5-8th 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 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±2.11mg/ml) (P<0.01), as shown in Table 5.

Table 5: Relation of CRP level with preterm labor among VOVID-19 pregnant women

Preterm labor	C-Reactive protein (mg/ml)	
	Mean	SD
Yes (n:40)	22.5	2.41
No (n:60)	14.6	2.11

P<0.001

Discussion

In this study, 33% of COVID-19 pregnant women were within the age group 24-30 years followed by 30% in the age group 31-38 year(Table 1).Consistent with what our study has reached, many studies also found that most of the ages affected by the Corona virus here are pregnant women were less than 30 years old[6,7]. This age period is considered the most vulnerable to premature birth, as was proven in previous studies[8,9]. 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). There is no doubt that among the most important problems that pregnant women face is high blood level, high level of diabetes, and also UTI [1]. Where previously conducted studies mentioned that most women with urinary tract infection are pregnant, and as the study indicated that most pregnant women with Coronavirus suffer from high levels of temperature due to infection with the Corona virus, which leads to high temperatures, coughing, shortness of breath, muscle and bone pain[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 miscarriagebefore the 24thweek 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 womenand due to elevated levels of cytokines that affect the baby health [2]. 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.From previous studies and from the information accumulated by everyone that repeated infections with the COVID-19 include high temperatures in infected people as well as other respiratory symptoms. They complain of high temperatures compared to women who are not enough in the asymptomatic infections [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].

Conclusions

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

Conflict of Interest: None

Source of Findings: None

Ethical Clearance: None

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