

## Our Experience in Approaching and Managing Pregnant Ladies Infected with COVID 19 at Prince Ali Hospital in Jordan

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DOI: [10.36347/sasjm.2022.v08i03.012](https://doi.org/10.36347/sasjm.2022.v08i03.012)

| Received: 13.02.2022 | Accepted: 17.03.2022 | Published: 22.03.2022

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### Abstract

### Original Research Article

Our experience in approaching and managing pregnant ladies infected with covid 19 at Prince Ali hospital in Jordan. **Introduction:** A new type of coronavirus was discovered in Wuhan, China in late. In Jordan, the first case was declared on the third of March 2020. Concerns about its implication on pregnant women wellbeing although the presentation of the disease varies from mild to severe. Pregnant women are more likely to get infected by SARS-CoV-2. **Material and Methods:** This descriptive cross-sectional study among pregnant women was performed at Prince Ali hospital from June 2020 until January 2021. A sample (n = 100) was selected using convenience sampling. We used Microsoft Excel (version 16.0) for descriptive statistical analysis. We used counts (frequency) to describe nominal variables. **Results:** We managed 100 pregnant women with COVID-19 aged 21–39 years at the Prince Ali hospital between June 2020 and January 2021, out of 1000 pregnant women who were admitted during that period. Fifteen patients were in their 1st trimester (15%), 31 in their 2nd trimester (31%) and 54 in their 3rd trimester (54%). Among the 100 pregnant women with COVID-19 on admission, 66 patients (66%) were asymptomatic, and 34 patients (34%) were symptomatic. 91 pregnant women completed their pregnancy, resulting in a live birth. Four pregnancies- (4%) ends in miscarriage, no vertical transmission was observed. Caesarean sections were performed in 21 patients (21%) due to obstetric indications. No maternal deaths and no ICU admissions was among our hospitalised patients. **Conclusion:** Pregnant women with COVID-19 have a low risk of experiencing severe disease and a lower likelihood of having complications as we noticed in our study.

**Keywords:** COVID-19, pregnancy, vaccine, neonatal outcome, maternal mortality, vertical transmission, fever.

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## INTRODUCTION

A new type of coronavirus was discovered in Wuhan, China in late 2019 [16]. The virus was designated severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and the disease it causes was termed coronavirus disease 19 (COVID-19) by the World Health Organization (WHO) on February 11, 2020. Most infected people experience respiratory illness (viral pneumonia). COVID-19 can be transmitted between people through droplets from the respiratory tract, aerosols across short distances, and close contact [41].

In January and February 2020, Chinese authorities declared over 31,000 cases and 636 deaths [1]. On 30 January 2020, the WHO announced the upsurge of a Public Health Emergency of International

Concern (PHEIC) [4] and on 11 March 2020, a pandemic [5].

In Jordan, the first case was declared on the third of March 2020 [6]. To date, approximately 1,189,567 cases and 13,550 confirmed deaths have been reported in Jordan.

The presentation of the disease varies from mild to severe. Pregnant women are more likely to get infected by SARS-CoV-2 [42]. Many guidelines were issued regarding the presentation of the infection, the management, prognosis, and complications that may affect pregnant women. Also The safety of the vaccine and psychological impact on health have also been reported [8, 9]. So, the degree of panic and fear among pregnant women has since declined [10].

**Citation:** Tariq Irtaimeh, Amal Dubais, Kholoud Matar, Taisser Abbadi, Anas Masalha. Our Experience in Approaching and Managing Pregnant Ladies Infected with COVID 19 at Prince Ali Hospital in Jordan. SAS J Med, 2022 Mar 8(3): 171-176.

Our paper aims to assess our approach to and management of pregnant women with COVID-19, and maternal and perinatal outcomes at the Prince Ali hospital in Karak from June 2020 until January 2021.

## METHODS

This descriptive cross-sectional study among pregnant women was performed at Prince Ali hospital from June 2020 until January 2021. A sample (n = 100) was selected using convenience sampling.

We used Microsoft Excel (version 16.0) for descriptive statistical analysis. We used counts (frequency) to describe nominal variables. Ethical committee approval was obtained, as well as informed written consent from participants.

Inclusion criteria having a normal foetus without any congenital anomalies and pregnant women without major psychological disorders.

## RESULTS

We managed 100 pregnant women with COVID-19 aged 21–39 years at the Prince Ali hospital between June 2020 and January 2021, out of 1000 pregnant women who were admitted during that period. Fifteen patients were in their 1<sup>st</sup> trimester (15%), 31 in their 2<sup>nd</sup> trimester (31%) and 54 in their 3<sup>rd</sup> trimester (54%).

In terms of reasons for admission, 57 patients (57%) of patients were admitted for obstetric

indications (e.g., labour pain), 38 patients (38%) for COVID-19 related illness, and 5 patients (5%) for other reasons. The most common reason for admission in the 1<sup>st</sup> and 2<sup>nd</sup> trimesters was COVID-19 related illness (75%), while the most common reason for admission in the 3<sup>rd</sup> trimester was obstetric indication (84%).

Among hospitalised pregnant women with COVID-19, 15% had at least one underlying medical condition; diabetes (6%) and hypertension (3.1%) were the most prevalent.

Among the 100 pregnant women with COVID-19 on admission, 66 patients (66%) were asymptomatic, and 34 patients (34%) were symptomatic. Of the 34 symptomatic patients, none required intensive care unit (ICU) admission, and no maternal deaths or neonatal infections were reported. Figure 1 shows that the most common reported symptoms were cough (72%) and fever (68%).

Chart 1 shows the outcome of the pregnancy of infected women, 91 pregnant women completed their pregnancy, resulting in a live birth. Four pregnancies (4%) ends in miscarriage, which was seen in both symptomatic and asymptomatic pregnant women and happened before 20 weeks of gestation in all cases. In total, 5 patients (5%) have preterm delivery before 37 weeks—four of them occurred in symptomatic women. There were no cases of neonatal infection and only 5 patients (5%) of patients had received the vaccine.

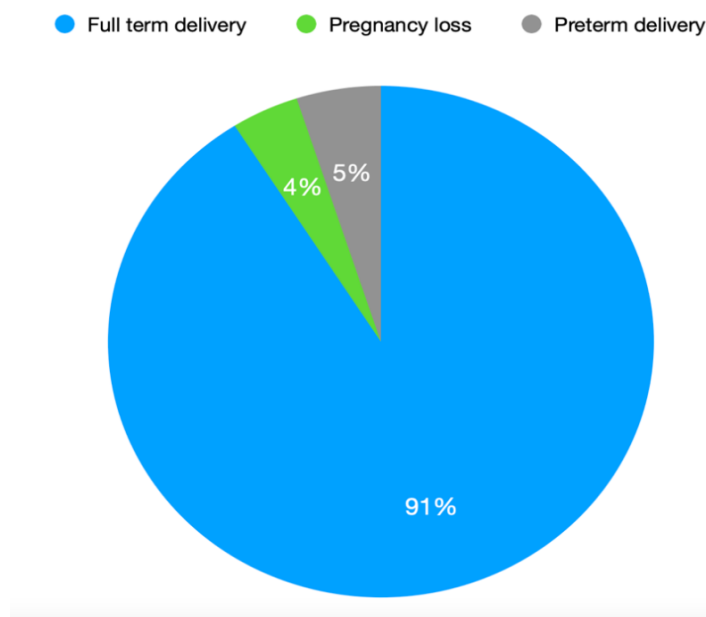
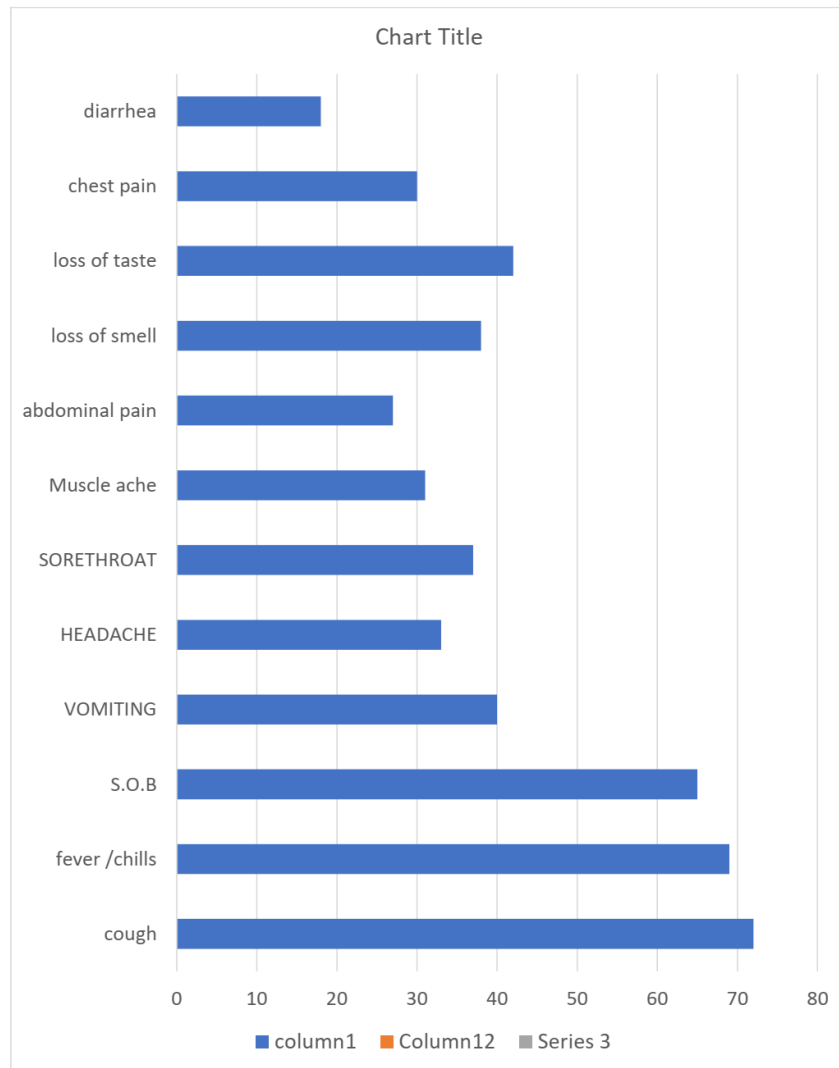


Figure 1

Among our patients we 3 cases with multiple pregnancies 2 set of twins, one set of triplets. Caesarean

sections were performed in 21 patients (21%) due to obstetric indications.



**Figure 2**

## DISCUSSION

Around 5% of women of reproductive age are pregnant at any given time [22]. There were 1000 admissions of pregnant women to Prince Ali hospital between June 2020 and January 2021. Only 10% were admitted with a positive COVID-19 test, showing a lower hospitalisation rate than Italy, where a national survey showed that 23.5% of pregnant women admitted to hospitals in the period from February 2020 to January 2021 were positive for COVID-19 [23].

The hospitalisation rate was higher in the third trimester (54 patients) in comparison to the first and second trimester, which showed 15 and 31 admissions.

Real-time reverse transcription-polymerase chain reaction (PCR) was the diagnostic test used to diagnose pregnant women with COVID-19 at our hospital [12].

According to the Jordan national guidelines during the COVID-19 pandemic, any pregnant woman

admitted to hospital should be screened for SARS-CoV-2.

In this study, 66 patients (66%) with COVID-19 were asymptomatic, as the majority of people worldwide are asymptomatic, and showed fewer symptoms than non-pregnant women in the same age group [18, 21].

The most common presentations in symptomatic women admitted to our hospital were cough (72%) and fever (68%), which is similar to the most common presentations in symptomatic pregnant women worldwide (fever, fatigue and dry cough).

The most common lab abnormality was lymphocytopenia, which was observed in 7% of the cases. Only 10% of our patients had a ground glass appearance on CT scan.

Most pregnant women with SARS-CoV-2 will have only mild or moderate cold/flu-like symptoms and the vast majority will not have serious complications

[24]. Pregnant women are not more severely affected than the general population [9]. This was observed in our study, as fortunately we did not have any cases of mortality or ICU admission, even though pregnant women with SARS-CoV-2 infection have higher risks for ICU admission, invasive ventilation and maternal mortality [35, 19]. Data from Wuhan revealed that 4.3% of pregnant women with COVID-19 died [11].

In our hospital, 5 patients (5%) had preterm delivery and 4 patients (4%) had miscarriage. It is already known that rates of preterm birth and miscarriage increase in pregnant women with COVID-19 [14, 15].

Clinical management protocols should be set by a multidisciplinary medical team to prevent pregnant women from fatal COVID-19-related complications [36]. Therefore, we managed our patients through a multidisciplinary team (MDT) in order to evaluate the women and the babies in isolated rooms. The healthcare workers wore personal protective equipment (PPE). The aim of this was to protect our healthcare workers and prevent transmission in the healthcare setting. Our management protocol started with hourly monitoring of the patient's oxygen saturation, respiratory rate and temperature chart. The target was to have oxygen saturation above 94%.

Pregnancy-specific medications like tocolytics and corticosteroids were given when necessary and nifedipine was the first choice as a tocolytic drug [30, 31]. COVID-19-specific treatments were also given to the patients, such as low molecular weight heparin, antiviral medications, and in some cases systemic corticosteroids, although the safety of some of these medications in pregnancy is debatable [32, 33]. Ultrasound scanning of the foetus is indicated and radiographic investigation is indicated in unwell patients, such as X-ray and CT scans.

Intrapartum care is performed in isolated rooms, monitoring the foetus through the CTG and managing the women using a MDT. Epidural block is recommended for analgesia [39]. The mode of delivery was usually decided by obstetric indications [30]. Therefore, there was no significant increase in Caesarean section (C-section), as reported by many systemic reviews [27, 28]. In our hospital, C-section was performed in 21 pregnant women with COVID-19 due to obstetric indications. C-section is not favourable because it is associated with more complications than vaginal delivery, for example, the physiological stress caused by surgery and increase in post-partum complications [25, 26]. There is no evidence to support that C-section delivery lowers the risk of transmission of SARS-CoV-2 or improves maternal health [29]. All neonates at our hospital underwent a nasopharyngeal swab at 24 hours to evaluate whether they were infected or not. There was no vertical transmission to the

neonate and studies have shown that congenital transmission is possible but rare [20]. Women and their healthy babies were kept together in the immediate postpartum period if they did not otherwise require critical maternal care or neonatal care. Breast feeding was encouraged, provided that the mother took the required precautions [40].

Our policy on discharging patients was:

1) in asymptomatic patients, 10 days after positive PCR, and 2) in symptomatic patients, 10 days after onset of symptoms plus 3 additional days without symptoms (at least 13 days in hospital). After discharging the patients, we followed them up after 2–4 weeks.

Only five women at our hospital had been vaccinated; the others did not take the vaccine because they had doubts about its safety and links with congenital anomalies, although all of the data has confirmed the safety of the vaccine and its benefits in preventing complications related to COVID-19 [37, 38].

In total, 15 patients (15%) had underlying medical conditions; diabetes (7.2%) and hypertension (2.1%) were the most prevalent, consistent with their association with an increased risk of developing severe COVID-19 [17].

## CONCLUSION

Pregnant women with COVID-19 have a low risk of experiencing severe disease and a lower likelihood of having complications as we noticed in our study. However, we should encourage pregnant women to get a COVID-19 vaccine.

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