

# COVID19 pandemic, are there reasons to worry about the efficacy of the perinatal care system? – commentary.

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The COVID19 outbreak has affected many aspects of people’s lives, including those of pregnant women. Apart from social-distancing, prohibition of assemblies, isolation, quarantine and many other imposed measures, there are restrictions on access to planned medical consultations, diagnostic procedures and interventions. These restrictions may both, directly and indirectly, disturb the stability of healthcare systems.

The previous commentaries presented in this journal have discussed the novel virus and the readiness of obstetricians for dealing with COVID 19 positive mothers. [1][2] But what about the rest? What about those without symptoms, that in some countries are home on lockdown? Are we ready to take our pregnant women completely “online”? Do they all qualify? Is it safe? Is it efficient? Is it ethical? What if something goes wrong? Are there laws protecting both sides: the patient and the medical professional?

Pregnant women are a specific group of patients. The majority of them are young women without comorbidities. But pregnancy is a time of increased medical supervision aimed at achieving the best perinatal outcome, reduction of both maternal and neonatal morbidity and mortality. Pregnancy is a risk factor of COVID-19 infection, especially in the 3rd trimester [3]. Adequate antenatal care according to both national and international standards may be affected by several factors: healthcare providers limiting consultations to those classified as urgent both in outpatient and inpatient facilities, limited access to medical facilities due to restrictions of travel and transport. All these restrictions have been imposed in good faith as a measure of social distancing. But it has to be noted that as a result, women may be reluctant to visit medical facilities because of fear of contracting the virus, therefore voluntarily waiving their right to access antenatal visits.

Statements have been published regarding the use of personal protective equipment (PPE) aimed at minimizing the risk of exposition of medical personnel. As reality shows, access to PPE is limited even in the most efficient health systems [4]. This may also be a burden in the provision of optimal antenatal care in some settings.

COVID-19 pandemic has reached more than 200 countries [5]. The mortality rate varies and depends mainly on age and comorbidities. The highest is recorded in countries such as Italy and Spain [5]. The average reported by WHO is 3.4%. Recent reports indicate a significantly lower mortality of 0.66% [6] because previous registries have not included asymptomatic patients.

Adequate antenatal care is a standardized medical process aimed at achieving perinatal results characterized by a low percentage of prematurity, low maternal and fetal mortality and morbidity. The preventive measures implemented over the years helped prevent in many cases, serious complications. In recent years, our country Poland has achieved the lowest maternal mortality in the entire European region and one of the lowest perinatal mortality rates.

These results can be attributed to doctor or midwife assisted antenatal visits every 3-4 weeks and recommended 3-4 ultrasound examinations in each pregnancy. This system was built on experience, research and organization of a national perinatal care system. We fear that the failure of the system to perform adequately in the light of the imposed restrictions may, in a short time, lead to a deterioration of perinatal results. This the least will be caused by COVID-19 infections in pregnancy. According to previous reports, the course of coronavirus infection is not worse than in the non-pregnant population of the same age [7]. Particular attention should be paid to pregnant women with co-morbidities because those are at most significant risk of complication both with and without coronavirus infection.

When managing a pregnancy, unassisted 4-5 weeks may have a substantial impact on the outcome. Non-adherence to the right timing of acetylsalicylic acid prophylaxis, vaginal progesterone treatment, glucose tolerance test or anti D immunoglobulin injection, can lead to significant complications. Women that suffer from pre-pregnancy morbidities such as hypertension, diabetes, renal problems, obesity are in these times at risk of an even higher risk of adverse outcome due to reduction in surveillance. In their case, there is a need for more than less scrutiny. In this group of women, on the one hand, we fear that restricted access to health care facilities may lead to deterioration of control of blood pressure values, glucose levels or excessive weight gain. On the other hand, they may become exposed to the coronavirus, which again in this group may lead to an adverse outcome, because these women are at higher risk of severe complications associated with the viral infection. As mentioned before, without fully adhering to the recommended protocols for both low and high risk, but especially high-risk pregnancies, the goals of optimal perinatal care cannot be achieved. In the time of the pandemic adherence to protocols is put to the test, and although interim protocols are published by national and international societies to adjust means to the measure, it may not be enough. [8] Two reports [9,10] show the impact of co-morbidities on the percentage of severe cases among infected with COVID-19 pregnant women. In a study from China, 38 women infected with SARS-CoV-2 were analyzed; none of them had pre-pregnancy comorbidities. Of those women, 3 developed gestational diabetes and one hypertension and one preeclampsia during the course of pregnancy. In the New York group, more than 41% demonstrated associated diseases such as asthma, chronic hypertension and type II diabetes. More than 60% of women in the New York group was diagnosed with obesity – a factor neglected in the China group (Table 1). These factors could have a decisive impact on the reported differences regarding the course of the COVID-19 disease, notably since the age of the patients did not differ based on the published data. Analysis of these two studies shows that the course of the viral infection was quite different. In the study group from China, no severe and critical events were observed, and for women in New York, they totalled 14%. From the WHO report from all provinces of China in which 147 pregnant women were analyzed, 8% of severe cases and 1% of critical cases were reported [11]. Despite a relatively small group, these results show that co-morbidities, including obesity, like in the non-pregnant population, decide about the course of the disease in a given age group.

Restrictions of access to routine care, fear of exposition, deliberate avoiding of contact with medical personnel, isolation and quarantine orders, and many other factors can lead to hindered pregnancy surveillance. If affecting weight gain, blood pressure and diabetes control in high-risk groups, it may, as a consequence, affect perinatal outcome regardless of COVID-19 infection.

The current situation related to the pandemic requires an intensified effort from medical personnel caring for pregnant women. In many cases, new forms of medical care are implemented, such as telephone and video consultations. This cannot always replace traditional perinatal visits but often is a necessity. RCOG warns their pregnant patients to always discuss with their medical professional the decision about not attending their prenatal visit. [12] Regular monitoring of pregnancy is crucial to achieve an optimal outcome. It is the medical community's responsibility on all levels (local, national, international) not to allow the burdens resulting from epidemiological restrictions to impact negatively the perinatal results achieved thus far.

At the beginning of this commentary, we have asked a series of questions. We do not have answers to them. COVID-19 may be the first pandemic in the modern world, but most probably it is not the last. We do not know and cannot tell for how long this situation is going to continue. We propose to begin a discussion of

how this can be managed best. Perhaps this should prompt new ideas of how to incorporate telemedicine and artificial intelligence into obstetric practice. The proposed solutions, of course, should be followed by new protocols and laws protecting both the patient and the medical professional.

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Authors declare no conflict of interest

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AK, SK – conceived and wrote the manuscript; AT, SE, MR – critically revised the manuscript

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### Table/Figure Caption List

Table.1 Comparison of the population of pregnant women infected with COVID19 in China and New York

	China (n-38)	NY (n-43)
Age(years)	20-40	20-39
Gestational Age (weeks)	32-38	37 (Median)
BMI	No data	30,6
>30(n)	No data	26 (60,5%)
Comorbidities	0	41,8%
Diabetes type 2	0 (3 DMG)	3
Chronic hypertension	0 (2 – preeclampsia, pregnancy HA)	3
Asthma	0	8
COVID-19 infection		
Mild	100%	86%
Severe	0	9,3%
Critical	0	4,7%
Maternal death	0	0
Outcome pending		1 remains inpatient

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