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Coronavirus Disease 2019: What Is the Current State of Knowledge About COVID-19 During Infertility Treatment or Desiring Pregnancy?

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Dear Editor,

Presently, the unprecedented coronavirus disease (COVID-19) is increasingly spreading throughout the world, including Iran. COVID-19 is known as a single-stranded RNA associated with a nucleoprotein within a capsid comprised of matrix protein which contains at least six open reading frames in its genome. All the structural and accessory proteins are translated from the sgRNAs of coronaviruses. Four main structural proteins are encoded by ORFs 10, 11 on the one-third of the genome near the 3-terminus. Awareness of the structure of the COVID is mainly significant in reproductive health (1). Our health care providers and specialists in reproductive health are seeking advice concerning how to manage couples who are undergoing or planning to undergo infertility treatment.

Currently, very little is known about the impact of COVID-19 on male and female fertility, and pregnancy (2). There is limited data indicating an increased risk of miscarriage (3) or early pregnancy loss, and fetal malformations caused by COVID-19. The current valid data are reassuring; however, it must be interpreted with caution given the fact that all studies have been running the small scales. Other forms of coronavirus (4) have been related to increasingly adverse outcomes during pregnancy owing to the fact that pregnant women are more vulnerable, especially to newfangled infections due to physiological and immunological changes during pregnancy (5). Previous studies have shown that high fever in the first trimester of pregnancy, which is a human teratogen, leads to fetal malformations. Maternal fever while pregnancy is associated with several adverse childbirth outcomes including neural tube defects, brain damage, and autism spectrum disorders (6).

Therefore, it would be rational that couples under any suspicious conditions such as fever and/or cough, shortness of breath, exposure of less than 1.80 cm to a confirmed COVID-19 patient and 14 days after the onset of symptoms, and positive coronavirus test results for those who are most likely to have COVID-19 should avoid pregnancy or assisted reproductive procedures (7). It is also recommended that patients who develop COVID-19 after oocyte collection should not have an embryo transfer. Furthermore, patients who have not yet received ovulation stimulants should seek medical consultation on treatment cancellation. Stopping follicular stimulating hormone while continuing with gonadotropin-releasing hormone (GnRH) or antagonist may prevent ovarian hyper stimulation syndrome, and avoiding unprotected intercourse may eliminate the risk of multiple pregnancy (8). Moreover, patients who have received r HCG or GnRH agonist can proceed with eggs collection and freeze procedures after undertaking a risk assessment. Embryo transfer or Intra-uterine insemination should not be carried out in women with suspected or diagnosed COVID-19.

In addition, it seems reasonable to recommend postponing pregnancy if a woman is suffering from underlying diseases such as respiratory disease, heart disease, diabetes, and immune suppression since more severe symptoms of COVID-19 (e.g., pneumonia and hypoxia) are very common among women with weakened immune systems, and those with chronic long-term illnesses such as diabetes, asthma, cancer, heart disease, chronic lung disease, and kidney disease (9).

In conclusion, since limited data are currently available on pregnant women with COVID-19, further studies are required to survey the mechanisms of this virus and its outcomes on pregnancy and reproduction. We suggested that infertility treatment should not be carried out on patients with suspected or diagnosed COVID-19.

Authors' Contribution

All authors were involved in designing of the study. JG, SH F and MO prepared the first draft of the paper. JG and MO provided the final manuscript. All authors read and approved the final manuscript.

Conflict of Interests

Authors declare that they have no conflict of interests.

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Not applicable.

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