

LETTER TO EDITOR

Challenges of Assisted Reproductive Technology during COVID19 Pandemic; a Letter to Editor

Fereshteh Aliakbari¹, Mohammadreza Hosseini², Rayka Sharifian^{1*}

1. Men's Health and Reproductive Health Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

2. Student Research Committee, Faculty of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

Received: October 2020; Accepted: November 2020; Published online: November 2020

Cite this article as: Aliakbari F, Hosseini M, Sharifian R. Challenges of Assisted Reproductive Technology during COVID19 Pandemic; a Letter to Editor. Mens Health J. 2020; 4(1): e19.

Dear editor;

The coronavirus has spread rapidly all over the world and has become a worldwide crisis. On 11th March, 2020, the World Health Organization (WHO) described the coronavirus disease as a global pandemic. Following the mortality due to COVID-19 infection, many healthcare systems have been affected in many countries. On July 11th, 2020, 12322395 confirmed cases of coronavirus were reported, of which 556335 led to death (1).

Many countries are faced with some challenging issues such as increasing elderly population and Limitations of young and fresh resource. On the other hand, there is the possibility that the coronavirus would negatively affect the rate of reproduction in many countries. The issue of decreased reproduction during the COVID-19 outbreak is not limited to developed countries, and soon many countries will face population problems. In Italy, with a population of 60.7 million people, the annual population decreases by 0.2% and life expectancy is 82.5 years. The rates of reproduction in Italy, France, and United States of America were 1.35, 1.96, and 1.80 births per woman, respectively (2). Considering the reduction of 170000 births in 2018 in Iran, compared with previous years, and despite the birth rate of 1196000 births, as well as the population growth rate decline to less than 1% in 2018, it seems that Iran's population is aging fast (3). During the six months of March to August 2020, children were born who were formed before the coronavirus pandemic and were born in such harsh conditions. Therefore, in the mentioned six months, no considerable reduction would be seen in the rate of birth. However, there is a concern that the rate of birth would considerably reduce with respect to the present con-

ditions and even become negative (2). Considering the decrease in population rate due to extensive mortality rate of COVID-19 infection and lack of interest for pregnancy in couples, more attention should be paid to infertile patients who would like to have children (2).

Infertility is defined as not being able to naturally conceive a child after two year of unprotected intercourse. One of the methods for treating infertility is ART (Assisted Reproductive Technology) which increases the chance of fertility using up-to-date technology. Since this technology is highly important in infertile couples it should also be considered even during the COVID-19 pandemic. Each year, 0.3% of children are born using ART in United States. This is while during the first three months of 2020, death due to COVID-19 comprised 1% of total deaths. Based on the evidences, ART can help balance the population during this pandemic (4). Alviggi and colleague suggested that all treatment processes including in vitro fertilization/ intra uterine insemination (IVF/IUI), embryo-transfer, and infertility research process be postpone(2). On 19th March 2020, the European Society for Human Reproduction and Embryology suggested that pregnancy using embryo-transfer techniques should not be used and infertile individuals should not go to trips for treating their infertility in order to reduce the burden on the healthcare system during the pandemic (2). On 30th March 2020, the American Society for Reproductive Medicine suggested that new infertility treatments as well as embryo transfers should be postpone and only those who were started treatment cycles before the coronavirus outbreak or patients who need emergency stimulation and cryopreservation be treated (5). The Superior Institute of Health (ISS) and the National Center of Transplants in Italy also recommended that gamete donation, ovulation stimulation, and IVF be stopped except in emergency cases such as in patients with cancer or old age of the mother (5). Moreover, patients should have no signs or symptoms of COVID-19 infection. In my opinion in

*Corresponding Author: Rayka Sharifian; Men's Health & Reproductive Health Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran. Email: Sharifian.rayka@sbmu.ac.ir, Tel: +98935852104



Iran, due to population growth policies, the treatment process of infertile patients should be followed with greater sensitivity, so stopping all treatment processes and ART does not seem logical. Therefore, we suggest that according to the Iranian Society for Reproductive Medicine and the guidelines of Iran's Ministry of Health, patients whose delay in treatment is not advisable for a long time, including women aged more than 35 years or low ovarian reserve (Anti Mullerian Hormone equal to or less than 1.7 and Antral Follicle count between 5-7 or endometriosis stage 2 and 4, which are candidates for IVF and their spouse does not have azoospermia. These patients can be entered into the treatment cycle by performing all health protocols for patients and Medical system personnel's (6). It is necessary to freeze the fetus after its formation and delay the transfer until the condition normalizes (5). given that the prognosis of patients who need ovulation stimulation or IUI is appropriate, and these people have adequate time to delay treatment, it is also recommended to avoid starting these cycles in order to avoid traveling in and out of the city and reduce contact, as well as the possible side effects of Human chorionic gonadotropin (hCG) injection and hyperstimulation syndrome and its subsequent consequences (6). Our recommendation is that patients with a long history of infertility without children and those who are older should be given priority treatment. Also, patients with malignancy should begin treatment processes. In patients with malignancy, in addition to the above protocols, the service provider must urgently perform embryo storage and transfer processes. Also, those who started treatment before the SARS-COV-2 pandemic need to complete it. However, health care systems need to provide special facilities for these groups so that in addition to not imposing additional burden on the health care system, reduce the risk of COVID-19 infection in patients and personnel.

1. Appendix

1.1. Acknowledgements

None.

1.2. Author's contribution

All the authors have shared the same workload and thereby are entitled to equal acknowledgement.

1.3. Conflict of interest

The authors declare no conflict of interest.

1.4. Funding and support

None.

References

1. Perlman S. Another decade, another coronavirus. *Mass Medical Soc*; 2020.
2. Alviggi C, Esteves SC, Orvieto R, Conforti A, La Marca A, Fischer R, et al. COVID-19 and assisted reproductive technology services: repercussions for patients and proposal for individualized clinical management. *Reproductive Biology and Endocrinology*. 2020;18(1):1-7.
3. <http://pana.ir/news/1061889>
4. Baghchechi M, Dunn J, Jaipaul N, Jacob SE. Art of prevention: Life in the time of coronavirus. *International Journal of Women's Dermatology*. 2020.
5. Vaiarelli A, Bulletti C, Cimadomo D, Borini A, Alviggi C, Ajossa S, et al. COVID-19 and ART: the view of the Italian Society of Fertility and Sterility and Reproductive Medicine. *Reproductive BioMedicine Online*. 2020.
6. Pirjani R, Rabiei M, Abiri A, Moini A. An overview on guidelines on COVID-19 virus and natural and assisted reproductive techniques pregnancies. *International journal of fertility & sterility*. 2020;14(3):264-71.