

The COVID-19 Pandemic Triggers Changes on the Field of Cross-border Reproductive Care

Elias Tsakos¹, Nikolaos Tsagias¹, Afroditi Stergioula¹, Byron Asimakopoulos²

¹*EmbryoClinic IVF Unit, 6, Adrianoupoleos Str., Thessaloniki, 55 133, Greece, www.EmbryoClinic.eu,*

²*Laboratory of Reproductive Physiology-IVF, Faculty of Medicine, School of Health Sciences, Democritus University of Thrace, Alexandroupolis, Greece*

ABSTRACT

The coronavirus disease-19 pandemic and the consequent public and economic restrictions had a dramatic impact in assisted reproduction. During the first months of the pandemic, the vast majority of the treatments stopped. The impact was much stronger on the field of cross-border reproductive care (CBRC). Whereas the other assisted reproduction treatments seem to recover slowly along with the softening of public restrictions, CBRC does not. The main reasons for the cessation of CBRC seem to be travel restrictions and the fear for contamination in destination countries, particularly in those countries with a heavy virus load. To our opinion, this situation will trigger changes on the field of CBRC which will remain even after the end of the pandemic.

Key words: Assisted reproduction, coronavirus disease -19, cross-border reproductive care, donation, pandemic

INTRODUCTION

In the beginning of 2020, the appearance of coronavirus disease (COVID-19) pandemic had a dramatic impact on the field of assisted reproduction. During the so-called “first wave,” assisted reproduction treatments almost completely ceased globally in an unprecedented manner and in line with a general public and business lockdown. Fertility treatments had been initially classified as “non-urgent” by International Health Authorities and as such there were strongly suggested to stop. Only emergency-assisted reproduction treatments as of fertility preservation for oncology patients were allowed to continue due to their emergency nature.

Human-assisted reproduction centers in the Western world and even globally, immediately adopted the recommendations of world’s largest scientific societies, such as the European society of human reproduction and embryology (ESHRE)^[1] and the American Society for Reproductive Medicine (ASRM),^[2] and also of the National Societies in each country which had strongly suggested to adopt the ESHRE and ASRM guidelines. It was

the 1st time since the emergence of ART that treatments halted globally due to a single and unique reason. From 1978, when Louise Brown was born,^[3] till the last year, assisted reproduction has made huge progress. This progress was mainly based on numerous scientific innovations which fuelled the improvement of methods and techniques as well as improvements in the regulatory framework for ART. The global increase of the number of ART treatments reflects this progress. This is evident from the reports of ESHRE, ASMR, and ICMART: The increase was steady and significant worldwide.^[4-6]

After the “first wave” of pandemic, the gradual softening of the strict restrictions for the COVID-19 gave the chance to assisted reproductions centers to restart their activities. However, this was not the case for cross-border reproductive care (CBRC).

THE IMPACT OF COVID-19 PANDEMIC ON CBRC

CBRC is a large part of ART. Various reasons have contributed to the development of CBRC: Legal restrictions regarding

Address for correspondence: Prof. Byron Asimakopoulos, Laboratory of Reproductive Physiology-IVF, Faculty of Medicine, School of Health Sciences, Democritus University of Thrace, Alexandroupolis, Greece.

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female age, marital status, sexual orientation or gamete donation and surrogacy, limited availability of ART, cost of treatments, quality of treatments, and also sociocultural considerations.^[7] Among these reasons, legal restrictions with regard to sperm and/or oocyte donation are probably the most common reasons for CBRC. International gestational surrogacy is another significant reason for CBRC as in the majority of countries globally is either illegal or unavailable and/or unregulated. Routine pre-implantation genetic testing and social sex selection are also reasons for CBRC as in many countries, these are either illegal and/or unavailable.^[7]

During the first months of 2020, the impact of restrictions for COVID-19 was stronger for CBRC: Cross-border reproductive treatments totally stopped. After the “first wave” of pandemic, whereas the other assisted reproduction treatments recovered with the softening of strict restrictions, CBRC did not. There are several reasons for the continuous cessation of CBRC.

Travel restrictions which are partially maintained make travelling abroad difficult for most of patients. Furthermore, several countries which were popular destinations for CBRC have a high incidence of COVID-19 cases and this is another reason that discourages patients to travel.

POSSIBLE CHANGES ON THE FIELD OF CBRC

It is obvious that this situation will continue for an indefinite period of time. Therefore, it is certain that changes in the behavior of patients seeking CBRC will appear. On the other hand, assisted reproduction units which offer CBRC should also change practices. To our opinion, in the future, the most important changes are related with gamete donation.

As previously mentioned, gamete donation is a main reason for many patients to seek treatment abroad. For example, in the European continent, gamete donation is illegal in Bosnia-Herzegovina and Turkey, whereas oocyte donation is illegal in Germany, Switzerland, and Norway.^[8] Combined sperm and oocyte donation is illegal in France, Sweden, Croatia, Montenegro, and Slovenia.^[8] Due to the above, certain countries as Spain, Greece, the Czech Republic, Cyprus, Ukraine, and Russia, to name but a few, have become popular destinations for patients seeking gamete donation not provided in their home countries.

As long as travel restrictions, at least partially, will be maintained, a number of patients who previously were ready to travel abroad for sperm or oocyte donation will try to find a way to do it in their home countries. In case, there are legal restrictions, this will be difficult or even impossible. However, in other cases such as religious or ethical restrictions and

shortage of gamete donors, the patients will probably turn to gamete banks to perform cycles in their home countries even if the cost is higher.

The import of sperm is a common practice in Europe and North America. Denmark is the leading market in sperm banks. During the past 10 years, the advances in oocyte vitrification have made oocyte donation through transportation feasible.

Oocyte vitrification instituted widely in 2011 and it revolutionized the way IVF cycles are performed enabling social freezing and the operation of oocyte banks. As oocyte banks can export vitrified oocytes, it made possible to perform IVF cycles with transported vitrified oocytes instead of travelling abroad to perform an IVF cycle with fresh donated oocytes. This practice, already available, had a negative influence on CBRC, and to our opinion, in the future, it will become more popular decreasing CBRC further and putting in stress those assisted reproduction centers that basically work with foreign patients. The transportation of vitrified oocytes probably will become a common practice in countries where oocyte donation is allowed but there is a lack of donors. For example, in four European countries (Italy, Croatia, Ireland, and Montenegro), although oocyte donation is legal, oocyte donors are not available to cover the demand,^[8] therefore, the oocyte donation programs rely in either transported oocytes from foreign banks or CBRC.

The increase of gamete transportation is necessary to be accompanied with more robust quality measures to ensure top quality and safety during the transportation procedure and of course high standards of traceability. In Europe, Commission Directive (EU) 2015/565^[9] has already paved the way to the establishment of an efficient facilitation of traceability; a similar procedure covering the rest of the world should be adopted. Existing challenges to the transportation of vitrified oocytes such as ethical issues, logistics, and cost will remain to be addressed. Moreover, it is necessary to underline that skilled staff is also required which will be responsible and expert not only for the biological but also for the transportation procedures involved. Accompanied papers, countries legislations, and certified companies for the transportation among different national authorities are also important in a transnational gamete program. Transnational gamete programs seem as an efficient solution to cover the demand for sperm and mostly oocyte donation. Transnational gamete programs had already established before COVID-19 pandemic;^[10] we believe that this practice will be strengthened in the future due to the restrictions imposed by the pandemic.

CONCLUSION

The restrictions due to the COVID-19 pandemic affecting the assisted reproduction have had a great impact on CBRC. This major impact will trigger changes in the field of CBRC, the

most important of which will be related to gamete donation: We believe that travels in search of sperm and egg donors will be dramatically reduced in the future, while the transport of cryopreserved gametes through transnational gamete programs will increase.

COMPETING INTERESTS

The authors declare that there are no competing interests.

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AUTHORS' CONTRIBUTIONS

Elias Tsakos made the outline; Byron Asimakopoulos did drafting; Elias Tsakos, Nikolaos Tsagias, and Afroditi Stergioula revised the manuscript. All authors approved the manuscript.

REFERENCES

1. ESHRE COVID-19 Working Group, ESHRE Guidance on Recommencing ART Treatments, ESHRE; 2020. Available from: https://www.eshre.eu/-/media/sitecore-files/guidelines/covid19/eshre-guidance-on-recommencing-art-treatments_update-04052020.pdf?la=en&hash=a584f8a306c570be7648c167cb190f994e21f05.
2. ASRM. Patient Management and Clinical Recommendations during the Coronavirus (COVID-19) Pandemic. Birmingham: ASRM; 2020. Available from: <https://www.asrm.org/news-and-publications/covid-19/statements/patient-management-and-clinical-recommendations-during-the-coronavirus-covid-19-pandemic>.
3. Steptoe PC, Edwards RG. Birth after the reimplantation of a human embryo. *Lancet* 1978;312:366.
4. de Geyter C, Calhaz-Jorge C, Kupka MS, Wyns C, Mocanu E, Motrenko T, *et al.* Art in Europe, 2015: Results generated from European registries by ESHRE. *Hum Reprod Open* 2020;2020:hoz038.
5. Centers for Disease Control and Prevention. 2017 Assisted Reproductive Technology Fertility Clinic Success Rates Report. Atlanta, GA: US Department of Health and Human Services; 2019. Available from: <https://www.cdc.gov/art/reports>.
6. Adamson GD, de Mouson J, Chambers GM, Zegers-Hochschild F, Mansour R, Ishihara O, *et al.* International committee for monitoring assisted reproductive technology: World report on assisted reproductive technology, 2011. *Fertil Steril* 2018;110:1067-80.
7. Salama M, Isachenko V, Isachenko E, Rahimi G, Mallmann P, Westphal LM, *et al.* Cross border reproductive care (CBRC): A growing global phenomenon with multidimensional implications (a systematic and critical review). *J Assist Reprod Genet* 2018;35:1277-88.
8. Calhaz-Jorge C, de Geyter C, Kupka MS, Wyns C, Mocanu E, Motrenko T, *et al.* Survey on ART and IUI: Legislation, regulation, funding and registries in European countries: The European IVF-monitoring consortium (EIM) for the European society of human reproduction and embryology (ESHRE). *Hum Reprod Open* 2020;2020:hoz044.
9. European Union. Commission Directive (EU) 2015/565 of April 2015 Amending Directive 2006/86/EC as Regards Certain Technical Requirements for the Coding of Human Tissues and Cells. Vol. 58. Official Journal of the European Union; 2015. p. 43. Available from: <https://www.eur-lex.europa.eu/eli/dir/2015/565/oj>.
10. La Marca A, dal Canto M, Buccheri M, Valerio M, Renzini MM, Rodriguez A, *et al.* A novel transnational fresh oocyte donation (TOD) program based on transport of frozen sperm and embryos. *Hum Reprod* 2019;34:285-90.

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