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Oocyte Cryopreservation for Women Seeking to Preserve Future Reproductive Potential

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When population-based birth statistics worldwide are examined, it has been reported that pregnancy rates are declining due to the progressive increase in the age at which women give birth (1). For these reasons, oocyte cryopreservation has emerged as an important strategy for fertility preservation. Since 2013, despite limited data, the American Society for Reproductive Medicine (ASRM) has stated that oocyte cryopreservation should no longer be considered an experimental procedure but rather be included among routine clinical practices, and consequently, it has become a standard method worldwide (2).

Randomized controlled trials have generally reported that oocyte survival rates following vitrification and warming range between 90% and 97%, fertilization rates between 71% and 79%, implantation rates between 17% and 41%, and clinical pregnancy rates per transfer between 36% and 61%. The clinical pregnancy rate per warmed oocyte has been reported to range from 4.5% to 12%. However, due to the limited number of randomized controlled trials, it remains unclear whether these findings are generalizable (3-6).

Observational studies have indicated that implantation and pregnancy rates achieved using frozen oocytes are lower compared to those obtained with fresh oocytes or frozen embryos. In an analysis of Italian national registry data collected between 2005 and 2007, including 193 IVF centers and more than 120,000 IVF cycles, implantation rates were reported as 13.5% versus 6.9% (OR: 2.12; 95% CI: 1.99–2.26), and pregnancy rates per transfer were 24.9% versus 12.5% (OR: 2.32; 95% CI: 2.16–2.49) for fresh versus frozen oocyte cycles, respectively (7).

It has been demonstrated that embryos derived from long-term cryopreserved oocytes do not show an increased risk of aneuploidy (8). In 2018, the Ethics Committee of the American Society for Reproductive Medicine stated that planned oocyte cryopreservation is ethically permissible for patients who wish to preserve fertility against future infertility due to reproductive aging, and that it may be recommended for patients under the age of 38 (9). However, one of the major challenges remains the low utilization (return) rates. Globally, the average return rate for frozen oocytes has been reported to be as low as approximately 12% (10). Therefore, from a cost-effectiveness perspective, oocyte cryopreservation without a medical indication is not recommended for women under the age of 30.

In conclusion, social oocyte freezing is of great importance for preserving future reproductive health worldwide. It should be considered a public health priority, and particularly for women in their 30s who have not yet had children and are unable to do so in the near future, the promotion of oocyte cryopreservation by governments should be implemented as a national policy.

İsmet Gün graduated from Gülhane Military Medical Faculty, Department of Medicine. He completed his specialty in Obstetrics and Gynecology at GATA Haydarpaşa Training Hospital, Faculty of Medicine, Department of Obstetrics and Gynecology between 1997 and 2001. Between 2001 and 2008, he worked as a specialist at military hospitals in Ankara, Erzurum and Adana. Between 2009 and 2015, he started working as an assistant professor at GATA Haydarpaşa Training Hospital, Department of Obstetrics and Gynecology. In 2011, he received oncology training for six months at the Oncology Training Center, Department of Gynecological Oncology, Istanbul Faculty of Medicine, Istanbul University. In 2013, he received training in In Vitro Fertilization and Reproductive Health at Zeynep Kamil Women and Children's Diseases Training and Research Hospital. He became an associate professor in 2013. He has been working as the Head of the Obstetrics and Gynecology Clinic at Near East University in Cyprus since 2020. He has published more than 100 scientific papers in national and international journals, receiving nearly 1,255 citations, and has contributed 8 book chapters to national and international textbooks. He served as the lead editor for two books on fertility-preserving surgery and gynecological surgery.

Competing Interests

None declared.

Ethical Issues

Not applicable.

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References

1. American College of Obstetricians and Gynecologists Committee on Gynecologic Practice and Practice Committee. Female age-related fertility decline. Committee Opinion No. 589. Fertil Steril. 2014;101(3):633-634. doi:10.1016/j.fertnstert.2013.12.032
2. Practice Committees of the American Society for Reproductive Medicine and the Society for Assisted Reproductive Technology. Mature oocyte cryopreservation: a guideline. Fertil Steril. 2013;99(1):37-43. doi:10.1016/j.fertnstert.2012.09.028
3. Parmegiani L, Cognigni GE, Bernardi S, et al. Efficiency of aseptic open vitrification and hermetical cryostorage of human oocytes. Reprod Biomed Online. 2011;23(4):505-512. doi:10.1016/j.rbmo.2011.07.003
4. Cobo A, Kuwayama M, Pérez S, Ruiz A, Pellicer A, Remohí J. Comparison of concomitant outcome achieved with fresh and cryopreserved donor oocytes vitrified by the Cryotop method. Fertil Steril. 2008;89(6):1657-1664. doi:10.1016/j.fertnstert.2007.05.050
5. Rienzi L, Romano S, Albricci L, et al. Embryo development of fresh 'versus' vitrified metaphase II oocytes after ICSI: a prospective randomized sibling-oocyte study. Hum Reprod. 2010;25(1):66-73. doi:10.1093/humrep/dep346
6. Cobo A, Meseguer M, Remohí J, Pellicer A. Use of cryo-banked oocytes in an ovum donation programme: a prospective, randomized, controlled, clinical trial. Hum Reprod. 2010;25(9):2239-2246. doi:10.1093/humrep/deq146
7. Scaravelli G, Vigiliano V, Mayorga JM, Bolli S, De Luca R, D'Aloja P. Analysis of oocyte cryopreservation in assisted reproduction: the Italian National Register data from 2005 to 2007. Reprod Biomed Online. 2010;21(4):496-500. doi:10.1016/j.rbmo.2010.05.008
8. Goldman KN, Kramer Y, Hodes-Wertz B, Noyes N, McCaffrey C, Grifo JA. Long-term cryopreservation of human oocytes does not increase embryonic aneuploidy. Fertil Steril. 2015;103(3):662-668. doi:10.1016/j.fertnstert.2014.11.025
9. Ethics Committee of the American Society for Reproductive Medicine. Planned oocyte cryopreservation to preserve future reproductive potential: an Ethics Committee opinion. Fertil Steril. 2024 Apr;121(4):604-612. doi: 10.1016/j.fertnstert.2023.12.030.
10. Kakkar P, Geary J, Stockburger T, Kaffel A, Kopeika J, El-Toukhy T. Outcomes of Social Egg Freezing: A Cohort Study and a Comprehensive Literature Review. J Clin Med. 2023;12(13):4182. doi: 10.3390/jcm12134182.

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