

Abstract

Introduction: The vitrification method for oocyte cryopreservation, initially developed for medical reasons, has gained popularity among women concerned about decreased reproductive capability associated with aging and seeking fertility preservation. Proven to be reliable with successful outcomes, it is now a universally accepted method despite drawbacks like high costs and uncertainties about future pregnancies.

Objective: We aim to discuss the use of Non-Medical Oocyte Cryopreservation (NMOC) in Japan, focusing on the experiences of 403 women at Kyono ART Clinic Takanawa between 2014 and 2021. **Methods:** During this period, women underwent oocyte cryopreservation for non-medical reasons, with a total of 592 oocytes retrieved using an established ovarian stimulation protocol. The Cryotop vitrification method demonstrated a post-warming survival rate of 94%, followed by fertilization using Intracytoplasmic Sperm Injection (ICSI). Fresh single embryo transfers occurred within 2-3 days of fertilization, while embryos chosen for cryopreservation were vitrified at the blastocyst stage for future single embryo transfers. **Results:** Out of the 403 women, 105 returned, and 61 underwent oocyte warming and ICSI. Of these 61 women, 13 women gave birth to 14 children. The average age at oocyte warming was 42.1 years. We observed a trend towards younger ages for NMOC, with decreasing age at first oocyte cryopreservation. The average number of retrieved oocytes per cycle decreased with age of the participant. **Conclusions:** In this study, we confirm vitrification as a valid method for oocyte cryopreservation and highlight the increasing trend of non-medical

oocyte cryopreservation, particularly among women in their late 30s. Despite the observed practical freezing of oocytes during optimal reproductive years to have children in the future, challenges like high costs and uncertainties persist, emphasizing the ongoing need for research into its long-term safety, effectiveness, and societal implications.

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