



Too cool to be late: the discrepancy between the required and obtained oocyte number in a social fertility preservation program

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INTRODUCTION: Previous reports on fertility preservation indicate that, typically, a larger number of oocytes are retrieved in patients aged ≤35 when compared to older patients. The goal for the present study was to evaluate: (i) the outcomes of thawed oocytes from a social fertility preservation (SFP) program by age and (ii) whether the number of cryopreserved oocytes is sufficient to achieve pregnancy.

METHODS: Fertility preservation cycles (1,332) and oocyte thawing cycles (n=132)

<30 years old (n=66 preservation, 24 thawing)

36-40 years old (n=640 preservation, n=42 thawing)

Laboratory and clinical outcomes were compared

30-35 years old (n=311 preservation, 33 thawing)

>40 years old (n=315 preservation, 33 thawing)

PGT Cycles (n=480) used to determine blastulation and euploidy rates within vitrified oocytes

To determine the estimated number of oocytes needed for an approximation of a guaranteed pregnancy based on age, the following calculation was performed:(100/blastulation rate X 100/euploidy rate) X 3

These figures were contrasted with those identified in our real-world database

RESULTS

Blastulation rates, euploidy rates, the number of oocytes required to form an euploid blastocyst, and the number of oocytes required to form three euploid embryos, stratified by age.

Female Age (years old)	< 30	30 to 35	36 to 40	> 40
Blastulation rate	60.8	54.0	51.9	42.8
Oocytes required per 1 blastocyst	1.64	1.83	1.92	2.33
Euploidy rate (%)	65.7	51.0	32.3	16.3
Blastocysts required per 1 euploid blastocyst	1.52	1.96	3.09	6.13
Oocytes required per 1 euploid blastocyst	2.49	3.58	7.52	14.3
Oocytes required for 3 euploid blastocysts	7.47	10.7	22.5	42.8
Survival rate (%)	90.7 ± 33.6ª	81.4 ± 40.4 ^{a,b}	83.4 ± 35.5 a,b	72.3 ± 34.9 ^b
Pregnancy rate (%)	50.0 ± 17.7 ^{a,b}	56.0 ± 85.0°	$46.3 \pm 69.0^{a,b}$	21.4 ± 93.0 ^b

Different superscript letters in a line represent significant differences (p<0.05).

CONCLUSION: The outcomes of thawed oocytes from SFP programs diminish with age, and the number of cryopreserved oocytes is below the desirable quantity for a successful pregnancy.