הכינוס השנתי ה-67 של
האגודה הישראלית לחקר הפוריות (איל"ה)
12 במאי 2025, מלון דיוויד אינטרקונטיננטל, תל אביב
האגודה הישראלית לחקר הפוריות (איל"ה)
THE ISRAEL FERTILITY ASSOCIATION (IFA)
الجمعية الإسرائيلية لأبحاث الخصوبة

Perinatal outcomes in siblings from different conception methods: in vitro fertilization with autologous oocyte or donor egg vs. unassisted medical conception

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Objective

To study the perinatal outcomes of children born from different conception methods: in vitro fertilization (IVF) with autologous oocytes or IVF with donor egg vs. those conceived without medical assistance by using a sibling analysis.

Design

- *Retrospective cohort study from 2000 through 2018, of a national healthcare organization.*
- *The cohort included mothers who had 2 pregnancies and their children.*
- *Cohort A compared women with 2 medically unassisted conceptions with those with an unassisted first conception followed by an IVF conception.*
- *Cohort B compared women with 2 medically unassisted conceptions with those with an unassisted conception followed by a second pregnancy from oocyte donation.*
- *Perinatal outcomes, including small for gestational age (SGA) and preterm birth (PTB) at <37 weeks, were investigated. The secondary outcomes included low birth weight, very low birth weight, and large for gestational age (LGA).*

Results

Background characteristics of the mothers and their children from cohort A (2 medically unassisted vs. unassisted + in vitro fertilization) and cohort B (2 medically unassisted vs. unassisted + donor egg).

	Cohort A			Cohort B		
Variable[a]	2 unassisted (N = 1,080)	Unassisted + IVF (N = 1,080)	*P* value	2 unassisted (N = 94)	Unassisted + donor egg (N = 94)	*P* value
Mother's age at the first conception	29.4 ± 4.5	32.7 ± 4.6	.001	29.8 ± 4.7	38 ± 4.1	.001
Mother's age at the second conception	32.8 ± 5	37.2 ± 4.3	.001	33.3 ± 4.7	43.4 ± 3.9	.001
Socioeconomic status	6.4 ± 2	6.8 ± 1.8	.001	6.4 ± 2.1	7.6± 1.4	.001
BMI at the first conception	24.7 ± 5.3	25.5 ± 6.1	.042	25.2 ± 5.4	24.7 ± 4.3	.720
BMI at the second conception	25 ± 5	26.3 ± 6.2	.002	26.2 ± 6.3	25.6 ± 5.2	.270
Sex of first-born child (male)	578 (53.5%)	532 (49.3%)	.102	55 (58.5%)	44 (46.8%)	.150
Sex of second-born child (male)	566 (52.4%)	553 (51.2%)	.366	47 (50%)	45 (47.8%)	.880

Note: BMI = body mass index; IVF = in vitro fertilization.
[a] Data are presented as means ± standard deviations or n (%).

Perinatal outcomes of the second child from cohort A (2 medically unassisted pregnancies vs. unassisted followed by in vitro fertilization) and cohort B (2 unassisted pregnancies vs. unassisted followed by egg donation).

	Cohort A			Cohort B		
Variable from the second conception[a]	2 unassisted (N = 1,080)	Unassisted + IVF (N = 1,080)	*P* value	2 unassisted (N = 94)	Unassisted + donor egg (N = 94)	*P* value
GA (wk) at delivery	39.1 ± 1.4	38.1 ± 2.1	.001	39.2 ± 1.8	38.5 ± 1.9	.150
GA (wk) at <37 wk	37 (3.5%)	129 (12%)	.001	2 (2%)	6 (6.4%)	.520
Birth weight (g)	3,309.6 ± 448.5	3,095 ± 559.5	.001	3,371.4 ± 517.7	3,234 ± 556.2	.830
Birth weight (g) of <1,500 g	1 (0.09%)	19 (1.8%)	.002	1 (1.1%)	1 (1.1%)	.990
Birth weight (g) of <2,500 g	37 (3.5%)	126 (11.7%)	.001	3 (3.2%)	6 (6.4%)	.530
Small for gestational age	36 (3.4%)	58 (5.4%)	.048	3 (3.3%)	3 (3.2%)	.320
Large for gestational age	129 (12%)	118 (11%)	.044	15 (16.5%)	22 (24%)	.020

Note: GA = gestational age; IVF = in vitro fertilization.
[a] Data are presented as means ± standard deviations or n (%).

Conclusion

IVF pregnancies with autologous eggs are more susceptible to PTB, low birth weight, very low birth weight, and SGA, whereas donor egg pregnancies appear relatively unaffected, except for the higher rate of LGA.

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