

Supplementary Table S3. Sensitivity analyses. Effect of frozen-ET and fresh-ET on preterm birth overall (total), through HDP^a (mediated) and independent of HDP^a (direct). Odds ratios (OR) with 95% confidence intervals.

	Cases of preterm birth/deliveries (%)	Total effect OR ^b	Direct effect OR ^b	Mediated OR ^b	% Mediated ^c
Natural conception					
Main sample	219 454/4 426 682 (5.0%)	1.00 (Ref.)	1.00 (Ref.)	1.00 (Ref.)	–
BMI & smoking sample	117 705/2 554 102 (4.6%)	1.00 (Ref.)	1.00 (Ref.)	1.00 (Ref.)	–
Diabetes sample	219 454/4 426 682 (5.0%)	1.00 (Ref.)	1.00 (Ref.)	1.00 (Ref.)	–
Primiparous sample	136 564/2 265 207 (6.0%)	1.00 (Ref.)	1.00 (Ref.)	1.00 (Ref.)	–
IVF (≠ ICSI)	219 454/4 426 682 (5.0%)	1.00 (Ref.)	1.00 (Ref.)	1.00 (Ref.)	–
Partner sperm sample ^d	157 828/3 228 532 (4.9%)	1.00 (Ref.)	1.00 (Ref.)	1.00 (Ref.)	–
Single embryo transfer	219 461/4 426 682 (5.0%)	1.00 (Ref.)	1.00 (Ref.)	1.00 (Ref.)	–
Blastocyst transfer	116 045/1 534 104 (4.7%)	1.00 (Ref.)	1.00 (Ref.)	1.00 (Ref.)	–
Frozen-ET					
Main sample	1198/18 037 (6.6%)	1.29 (1.21 to 1.37)	1.23 (1.16 to 1.30)	1.045 (1.044 to 1.046)	20.7
BMI & smoking sample	901/14 355 (6.3%)	1.29 ^e (1.20 to 1.38)	1.24 ^e (1.20 to 1.28)	1.039 ^e (1.038 to 1.040)	16.9
Diabetes sample	1198/18 037 (6.6%)	1.29 (1.21 to 1.36)	1.23 (1.19 to 1.27)	1.046 (1.045 to 1.047)	19.9
Primiparous sample	799/10 454 (7.6%)	1.24 (1.16 to 1.34)	1.18 (1.13 to 1.22)	1.058 (1.056 to 1.060)	28.0
IVF (≠ ICSI)	667/9846 (6.8%)	1.29 (1.19 to 1.40)	1.23 (1.18 to 1.28)	1.053 (1.052 to 1.054)	22.3
Partner sperm sample ^d	703/10 870 (6.5%)	1.23 (1.14 to 1.33)	1.19 (1.14 to 1.24)	1.038 (1.037 to 1.039)	19.2
Single embryo transfer	757/11 605 (6.5%)	1.29 (1.20 to 1.39)	1.23 (1.18 to 1.27)	1.053 (1.052 to 1.054)	22.2
Blastocyst transfer	264/3729 (7.1%)	1.41 (1.24 to 1.61)	1.35 (1.27 to 1.44)	1.044 (1.042 to 1.045)	14.3
Fresh-ET					
Main sample	6351/78 300 (8.1%)	1.49 (1.45 to 1.53)	1.48 (1.44 to 1.52)	1.002 (1.000 to 1.003)	0.5
BMI & smoking sample	4068/53 165 (7.7%)	1.49 ^e (1.44 to 1.54)	1.50 ^e (1.45 to 1.55)	0.998 ^e (0.996 to 0.999)	<0 ^f
Diabetes sample	6351/78 300 (8.1%)	1.47 (1.44 to 1.52)	1.48 (1.43 to 1.51)	1.000 (0.999 to 1.002)	0.2
Primiparous sample	5002/58 919 (8.5%)	1.39 (1.34 to 1.43)	1.38 (1.34 to 1.43)	1.001 (0.999 to 1.003)	0.4
IVF (≠ ICSI)	3912/44 602 (8.8%)	1.59 (1.54 to 1.65)	1.60 (1.54 to 1.65)	0.998 (0.996 to 1.000)	<0 ^e
Partner sperm sample ^d	2836/35 729 (7.9%)	1.43 (1.38 to 1.49)	1.43 (1.37 to 1.49)	1.004 (1.002 to 1.005)	1.2
Single embryo transfer	2920/37 082 (7.9%)	1.49 (1.43 to 1.55)	1.49 (1.43 to 1.55)	1.000 (0.998 to 1.002)	<0 ^f
Blastocyst transfer	347/4214 (8.2%)	1.66 (1.48 to 1.85)	1.67 (1.49 to 1.87)	0.993 (0.987 to 0.999)	<0 ^f

Models are adjusted for year of delivery, maternal age, parity, and country.

^a Hypertensive disorders in pregnancy, i.e. gestational hypertension, preeclampsia, eclampsia, or chronic hypertension with superimposed preeclampsia.

^b The total effect decomposes into the product of the direct effect odds ratio and the mediated effect odds ratio.

^c Proportion mediated = $DE \times (ME - 1) / (DE \times ME - 1)$, where DE is direct effect and ME is mediated effect.

^d Data only available in Denmark and Sweden.

^e Also adjusted for BMI as a categorical variable (underweight <18.5 kg/m², normal 18.5–24.9 kg/m², overweight 25–29.9 kg/m², or obese ≥30 kg/m²) and smoking status as a dichotomous variable (yes/no).

^f Note that when all or none of the effect is mediated (i.e. no statistically significant direct or mediated effect, respectively), the proportion mediated may be estimated outside of 0–100% due to random variability.