

Supplemental Information

SUPPLEMENTAL TABLE 6 Characteristics of 1056 Children Without an ID Diagnosis Who Died Before 7 Years of Age and Were Excluded From Analyses

	Non-ART	Any ART	IVF	ICSI
Total	1018	38	29	9
Sex, <i>N</i> (%)				
Boys	609 (59.8)	22 (55.3)	16 (55.2)	5 (55.6)
Girls	408 (40.1)	17 (44.7)	13 (44.8)	4 (44.4)
Indeterminate	1 (0.1)	0	0	0
Plural status, <i>N</i> (%)				
Single	916 (90.0)	18 (47.4)	15 (51.7)	3 (33.3)
Twin	88 (8.6)	17 (44.7)	12 (41.4)	5 (55.6)
Higher multiple	14 (1.4)	3 (7.9)	2 (6.9)	1 (11.1)
Gestation category, wk, <i>N</i> (%)				
≥37	553 (54.5)	8 (21.1)	5 (17.2)	3 (33.3)
32–36	144 (14.2)	6 (15.8)	4 (13.8)	2 (22.2)
<32	318 (31.3)	24 (63.2)	20 (69.0)	4 (44.4)
Birth wt category, ^a g, <i>N</i> (%)				
Normal, ≥2500	547 (53.8)	9 (23.7)	5 (17.2)	4 (44.4)
Low, 1500–2499	157 (15.4)	4 (10.5)	4 (13.8)	0
Very low, <1500	313 (30.8)	25 (65.8)	20 (69.0)	5 (55.6)
Year of birth category, <i>N</i> (%)				
1994–1996	395 (38.8)	12 (31.6)	9 (31.0)	3 (33.3)
1997–1999	342 (33.6)	12 (31.6)	10 (34.5)	2 (22.2)
2000–2002	281 (27.6)	14 (36.8)	10 (34.5)	4 (44.4)
Death age, mo, <i>N</i> (%)				
<1	555 (54.5)	31 (81.6)	25 (86.2)	6 (66.7)
1–<6	187 (18.4)	3 (7.9)	2 (6.9)	1 (11.1)
6–<12	59 (5.8)	0	0	0
≥12	217 (21.3)	4 (10.5)	2 (6.9)	2 (22.2)
Has major BD, <i>N</i> (%)	312 (30.6)	14 (36.8)	11 (37.9)	3 (33.3)
Gestational age, ^b wk, mean (SD)	33.84 (6.8)	28.53 (7.6)	27.7 (7.5)	31.3 (7.7)
Birth wt, ^a g, mean (SD)	2313 (1226)	1415 (1220)	1298 (1194)	1791 (1298)
Age at death, mo, mean (SD)	8.0 (15.9)	4.4 (14.3)	3.2 (12.5)	8.1 (19.5)
Age of mother, y, mean (SD)	27.6 (5.8)	33.3 (5.9)	34.7 (5.4)	29 (5.4)

^a One child missing birth wt data.

^b Three children with invalid gestational age.

SUPPLEMENTAL TABLE 7 Effect of Missing Data on RRs of ID After ART

	N per Crude Model (No Missing Data; All Basic Covariates Available)			N per Fully Adjusted Model (Cases With Missing PHI and/or Marital Status are Excluded)		
	ART ID/ART ^a	Non-ART ID/Non-ART	RR (95% CI), Basic ^b	ART ID/ART ^a	Non-ART ID/Non-ART	RR (95% CI), Basic ^b
Overall	60/2876	3491/207 751	1.33 (1.00–1.76)	59/2737	3275/194 520	1.37 (1.03–1.83)
Mild or moderate ID	52/2868	3261/207 521	1.25 (0.92–1.69)	52/2730	3061/194 306	1.31 (0.97–1.78)
Severe ID	8/2824	230/204 490	2.42 (1.19–4.93)	7/2685	214/191 459	2.25 (1.05–4.81)
All singletons, wk	37/1909	3361/202 457	1.29 (0.91–1.83)	37/1822	3154/189 474	1.35 (0.95–1.91)
≥37	24/1665	2956/190 219	1.08 (0.71–1.65)	24/1595	2768/178 140	1.13 (0.74–1.73)
32–36	8/207	313/109 15	1.34 (0.66–2.69)	8/193	296/10 107	1.36 (0.67–2.75)
<32	5/37	92/13 16	1.96 (0.74–5.20)	5/34	90/1221	2.16 (0.83–5.67)
All twins, wk	21/891	122/5133	1.17 (0.67–2.05)	21/842	115/4902	1.28 (0.73–2.25)
≥37	6/353	51/2403	0.89 (0.31–2.51)	6/335	49/2291	0.90 (0.31–2.59)
32–36	7/445	47/2325	0.85 (0.36–2.01)	7/420	44/2219	0.93 (0.39–2.22)
<32	8/93	24/405	2.42 (0.95–6.18)	8/87	22/392	2.82 (1.16–6.83)
IVF	31/1939	3491/207 751	0.96 (0.66–1.39)	30/1836	3275/194 250	1.00 (0.68–1.47)
ICSI	29/937	3491/207 751	2.00 (1.33–3.02)	29/901	3275/194 520	2.11 (1.40–3.17)
Fresh embryos	36/1757	3491/207 751	1.26 (0.90–1.79)	35/1682	3275/194 520	1.31 (0.92–1.86)
Frozen embryos	24/1119	3491/207 751	1.33 (0.89–1.99)	24/1055	3275/194 520	1.43 (0.96–2.15)

RR estimates are calculated using our basic Poisson generalized estimating equation model on the whole data set and the reduced data set (when cases with missing PHI and/or marital status are excluded). Differences in RR estimates are solely due to missing data.

^a ART includes IVF and ICSI.

^b Basic adjusted Poisson generalized estimating equation model includes sex, y of birth group, parity group, maternal age group, and delivery mode only.

SUPPLEMENTAL TABLE 8 Risk of ID After ART When Comparing the Fully Adjusted Model With the Model Including SES

	ART ID ^a /ART ^b	Non-ART ID/Non-ART	RR (95% CI), Adjusted ^c	RR (95% CI), Adjusted Plus SES ^d
Overall	57/2530	3021/177 228	1.62 (1.21–2.18)	1.62 (1.21–2.18)
Mild or moderate ID	51/2524	2827/177 034	1.56 (1.14–2.13)	1.56 (1.14–2.13)
Severe ID	6/2479	194/174 401	2.54 (1.12–5.81)	2.53 (1.11–5.77)
All singletons, wk	36/1678	2914/172 688	1.61 (1.13–2.29)	1.60 (1.12–2.28)
≥37	24/1469	2551/162 316	1.38 (0.90–2.11)	1.37 (0.89–2.09)
<37	12/209	363/10 366	1.84 (1.00–3.38)	1.87 (1.02–3.43)
All twins, wk	20/787	103/4410	1.63 (0.90–2.98)	1.64 (0.88–3.04)
≥37	6/311	44/2034	1.17 (0.39–3.51)	1.15 (0.36–3.63)
<37	14/476	59/2376	1.95 (0.94–4.05)	1.99 (0.94–4.18)
IVF	28/1694	3021/177 228	1.16 (0.77–1.74)	1.16 (0.77–1.74)
ICSI	29/836	3021/177 228	2.70 (1.80–4.06)	2.68 (1.78–4.03)
Fresh embryos	34/1558	3021/177 228	1.63 (1.13–2.35)	1.63 (1.13–2.34)
Frozen embryos	23/972	3021/177 228	1.67 (1.10–2.55)	1.67 (1.10–2.54)

^a Cases in which all covariates in the fully adjusted model and SES are available.

^b ART includes IVF and ICSI.

^c Fully adjusted generalized estimating equation model includes sex, y of birth group, parity group, maternal age group, delivery mode, and PHI.

^d SES is measured by using an index of relative socioeconomic disadvantage grouped into 5 categories (<10%, 10%–<25%, 25%–<75%, 75%–<90%, and ≥90%).

SUPPLEMENTAL TABLE 9 Risk of ID After ART Stratified by Child Sex

	ART ID/ART (Crude)	Non-ART ID/Non-ART (Crude)	Crude RR (95% CI)	Fully Adjusted RR ^a (95% CI)	P of Interaction ^b
ART versus non-ART, boys	32/1456	2394/106 384	0.98 (0.69–1.38)	1.29 (0.89–1.86)	.02
ART versus non-ART, girls	28/1420	1097/101 367	1.82 (1.26–2.64)	2.26 (1.48–3.46)	—
IVF versus non-ART, boys	18/1005	2394/106 384	0.80 (0.50–1.26)	1.03 (0.63–1.69)	.17
IVF versus non-ART, girls	13/934	1097/101 367	1.29 (0.75–2.21)	1.53 (0.84–2.80)	—
ICSI versus non-ART, boys	14/451	2394/106 384	1.38 (0.82–2.31)	1.88 (1.10–3.23)	.08
ICSI versus non-ART, girls	15/486	1097/101 367	2.85 (1.73–4.71)	3.86 (2.17–6.85)	—
ICSI versus IVF, boys	14/451	18/1005	1.73 (0.87–3.45)	1.52 (0.76–3.04)	.38
ICSI versus IVF, girls	15/486	13/934	2.22 (1.06–4.62)	2.11 (0.95–4.69)	—

—, not applicable.

^a Adjusted Poisson generalized estimating equation model includes y of birth group, parity group, maternal age group, delivery mode, PHI, and marital status (excluded from ICSI versus IVF comparison).

^b Interaction P value is the χ^2 P value for the difference between the corrected quasi likelihood of models with and without the conception-by-sex product term.