Supplementary Information

Title: Association between cesarean delivery and childhood allergic diseases: a longitudinal, population-based study in Japan

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- Supplementary Figure S1: Adjusted RRs for associations between cesarean delivery and childhood allergic diseases using GEE analysis, excluding PROM cases.
- Supplementary Figure S2: Adjusted RRs for associations between cesarean delivery and childhood allergic diseases using GEE analysis, with the cesarean deliveries as elective or emergency.

Supplementary Figure S1. Adjusted RRs for associations between cesarean delivery and childhood allergic diseases using GEE analysis, excluding PROM cases.

Mode o	Mode of delivery		
Cesarean n/N (%)	Vaginal (Ref.) n/N (%)	Adjusted RR (95% CI) ^a	
Atopic dermatitis			
155/3986 (3.9)	385/6441 (6.0)		0.8 (0.5–1.2)
Food allergy			
91/3986 (2.3)	171/6441 (2.7)	⊢	1.2 (0.7–1.9)
Bronchial asthma			
228/3986 (5.7)	422/6441 (6.6)	⊢	1.1 (0.8–1.5)
Allergic rhinoconjunctiviti	s		
477/4009 (11.9)	900/6484 (13.9)	H O H	0.9 (0.8–1.1)
	0	.1 0.5 1 2 1	.0

CI, confidence interval; GEE, generalized estimating equation; PROM, premature rupture of membranes; Ref, reference; RR, risk ratio. ^aAdjusted for sex, parity, multiple pregnancies, *in vitro* fertilization, maternal smoking, maternal alcohol consumption, maternal age at delivery, paternal age at delivery, maternal education attainment, paternal education attainment, place of birth and residence, and maternal complications.

Supplementary Figure S2. Adjusted RRs for associations between cesarean delivery and childhood allergic diseases using GEE analysis, with the cesarean deliveries as elective or emergency.

Mode of delivery	n/N (%)	Adjusted RR (95% CI) ^a	Adjusted RR (95% CI) ^a	
Atopic dermatitis				
Vaginal	429/7770 (5.5)	1 (Ref.))	
Elective cesarean	88/2534 (3.5)	0.8 (0.5–	-1.4)	
Emergency cesarean	83/1837 (4.5)	0.7 (0.4–	-1.3)	
Food allergy				
Vaginal	212/7770 (2.7)	1 (Ref.))	
Elective cesarean	61/2534 (2.4)	1.1 (0.7–	-1.9)	
Emergency cesarean	52/1837 (2.8)	1.0 (0.6–	-1.9)	
Bronchial asthma				
Vaginal	490/7770 (6.3)	1 (Ref.))	
Elective cesarean	145/2534 (5.7)	1.0 (0.7–	-1.5)	
Emergency cesarean	98/1837 (5.3)	1.0 (0.7–	-1.6)	
Allergic rhinoconjunctivitis				
Vaginal	1093/7821 (14.0)	1 (Ref.))	
Elective cesarean	291/2546 (11.4)	0.9 (0.7–	-1.1)	
Emergency cesarean	234/1849 (12.7)	1.0 (0.8–	-1.3)	
		0.1 0.5 1 2 10		

CI, confidence interval; GEE, generalized estimating equation; Ref, reference; RR, risk ratio.

^aAdjusted for sex, parity, multiple pregnancies, *in vitro* fertilization, maternal smoking, maternal alcohol consumption, maternal age at delivery, paternal age at delivery, maternal education attainment, paternal education attainment, place of birth and residence, and maternal complications