

Association of very preterm birth or very low birth weight with fertility: An individual participant data meta-analysis

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OBJECTIVES

There is emerging evidence that very preterm birth (VP; <32 weeks' gestation) or very low birth weight (VLBW; <1500g) is associated with reduced fertility. This individual participant data (IPD) meta-analysis aimed to assess:

- whether there are differences in fertility between VP/VLBW and term-born adults,
- whether the association of VP/VLBW with fertility differs by sex, and
- which individual factors are associated with fertility among VP/VLBW adults?

METHODS

DATA SOURCES: Cohorts from two international consortia: Research on European Children and Adults Born Preterm (RECAP), and Adults Born Preterm International Collaboration (APIC).

STUDY ELIGIBILITY CRITERIA: Prospective longitudinal cohort studies with relevant data on fertility, i.e., having children, of VP/VLBW and term-born adults were included.

STUDY APPRAISAL AND SYNTHESIS METHODS: All available IPD on fertility were analyzed using a one-stage approach of meta-analysis. Generalized linear mixed-effects models were used to estimate odds ratios (ORs) and 95% confidence intervals (CIs) in VP/VLBW adults relative to term-born adults.

RESULTS

Seven cohorts with 2294 participants (mean age: 26.17 years) were included in the IPD meta-analysis. As shown in Table 1, VP/VLBW and term-born adults did not significantly differ in fertility (OR, 1.48 [95% CI, 0.99–2.21]) and this association did not differ by sex (OR, 0.87 [95% CI, 0.53–1.42]). Overall, women were more likely to have children than men (OR, 1.53 [95% CI, 1.07–2.17]). Among VP/VLBW adults, higher fertility was significantly associated with female sex, higher age at assessment, absence of childhood neurosensory impairment, lower level of maternal education (Generation 1), lower level of own education (Generation 2), and being in a partnership (married/cohabited) (see Figure 1).

Table 1.

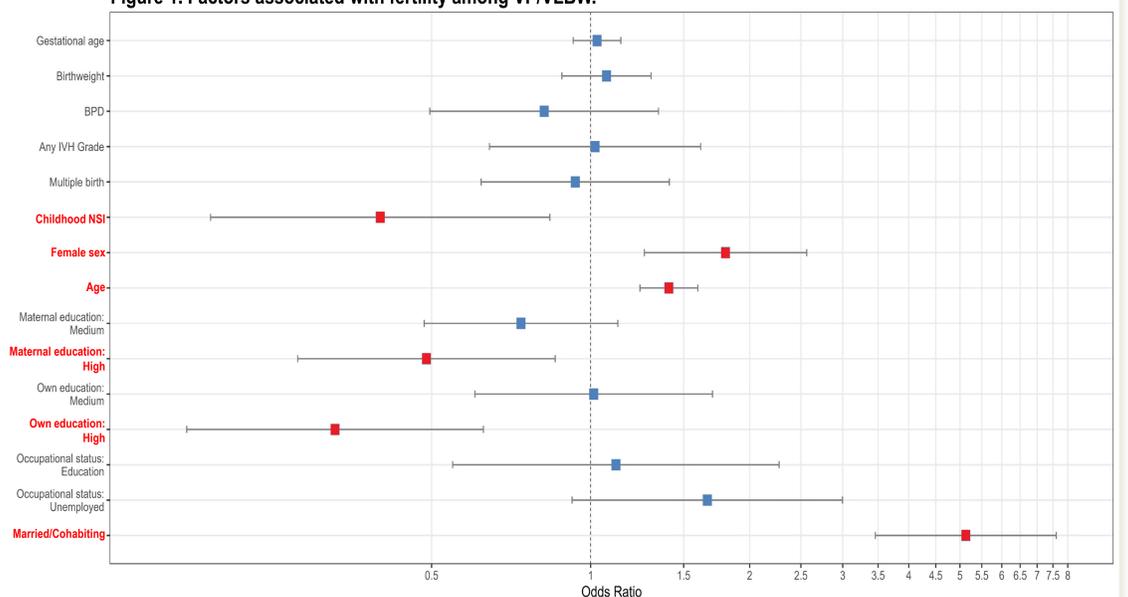
The effects of VP/VLBW, female sex, and their interaction on fertility.

Model	Odds Ratio (95% CI)
Unadjusted	
VP/VLBW	OR, 1.48 (0.99–2.21)
Female sex	OR, 1.53 (1.07–2.17)
Interaction	OR, 0.87 (0.53–1.42)
Adjusted for maternal education	
VP/VLBW	aOR, 1.31 (0.87–1.97)
Female sex	aOR, 1.47 (1.03–2.09)
Interaction	aOR, 0.89 (0.54–1.47)
Excluding participants with childhood NSI	
VP/VLBW	OR, 1.64 (1.09–2.46)
Female sex	OR, 1.51 (1.07–2.15)
Interaction	OR, 0.80 (0.49–1.33)

CONCLUSIONS

VP/VLBW is not associated with reduced fertility in emerging adulthood in either sex. In addition to childhood neurosensory impairment, mainly sociodemographic factors, such as partnership status, maternal education, and own education are associated with fertility in VP/VLBW adults.

Figure 1. Factors associated with fertility among VP/VLBW.



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