

Pregnancy outcomes among women with disabilities: a nationwide population-based cohort study

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Introduction

- Persons with disabilities make up ~16% of the global population; in Korea, ~5.1% are officially registered as having a disability.
- Most prior studies examined only a few broad disability categories and rarely incorporated disability severity.
- Korea's mandatory registration system certifies disability type and severity through specialist evaluation.
- Objective: to evaluate pregnancy complications according to maternal disability type and severity, using nationwide data.

Methods

- Design: nationwide retrospective cohort using the Korean National Health Insurance Service database, 2009–2022.
- Population: 2,152,663 primiparous singleton deliveries (Figure 1).
- Exposure: registered maternal disability (n=10,160), grouped into 8 clinically relevant subtypes; severity classified as mild vs severe.
- Outcomes (ICD-10): gestational diabetes (GDM), pre-eclampsia /eclampsia, placenta previa, placental abruption, fetal growth restriction (FGR), preterm labor.
- Analysis: multivariable logistic regression adjusted for maternal age, low-income status, region, and pre-existing comorbidities.

Results

- Women with disabilities were older, more often low-income, less often urban residents, and had a higher burden of pre-existing comorbidities.
- After full adjustment, maternal disability was associated only with pre-eclampsia/eclampsia and FGR (both aOR 1.39); other complications were not significant (Figure 2).
- Absolute risks remained low for most outcomes and subtypes (Figure 2), typically 3–8%. Internal organ disability was an exception (~24%, ~11%) but comprised only ~3% of women with disabilities.
- By subtype (Figure 2), the highest risks were seen with intellectual, brain lesion, and internal organ disability; physical and hearing disability showed no increased risk.
- By severity (Figure 3), risks for pre-eclampsia/eclampsia and FGR were consistently higher with severe disability.

Discussion

- Disability is not homogeneous exposure: physical, visual, and hearing disabilities (~71% of women with disabilities) showed no broadly increased risk.
- Much of the excess risk was attributable to pre-existing comorbidities and socioeconomic disadvantage rather than disability status itself.
- Limitations: ICD-10–based ascertainment; no smoking/BMI data; possible under-detection of screened outcomes; limited generalizability.

Conclusion

Maternal disability was not associated with a broad or uniform increase in pregnancy complications; risks were concentrated in intellectual, brain lesion, and internal organ disability and in severe disability, with modest absolute risks even in these groups. These findings support risk-stratified, individualized prenatal care — disability itself should not discourage pregnancy with appropriate counseling and surveillance.

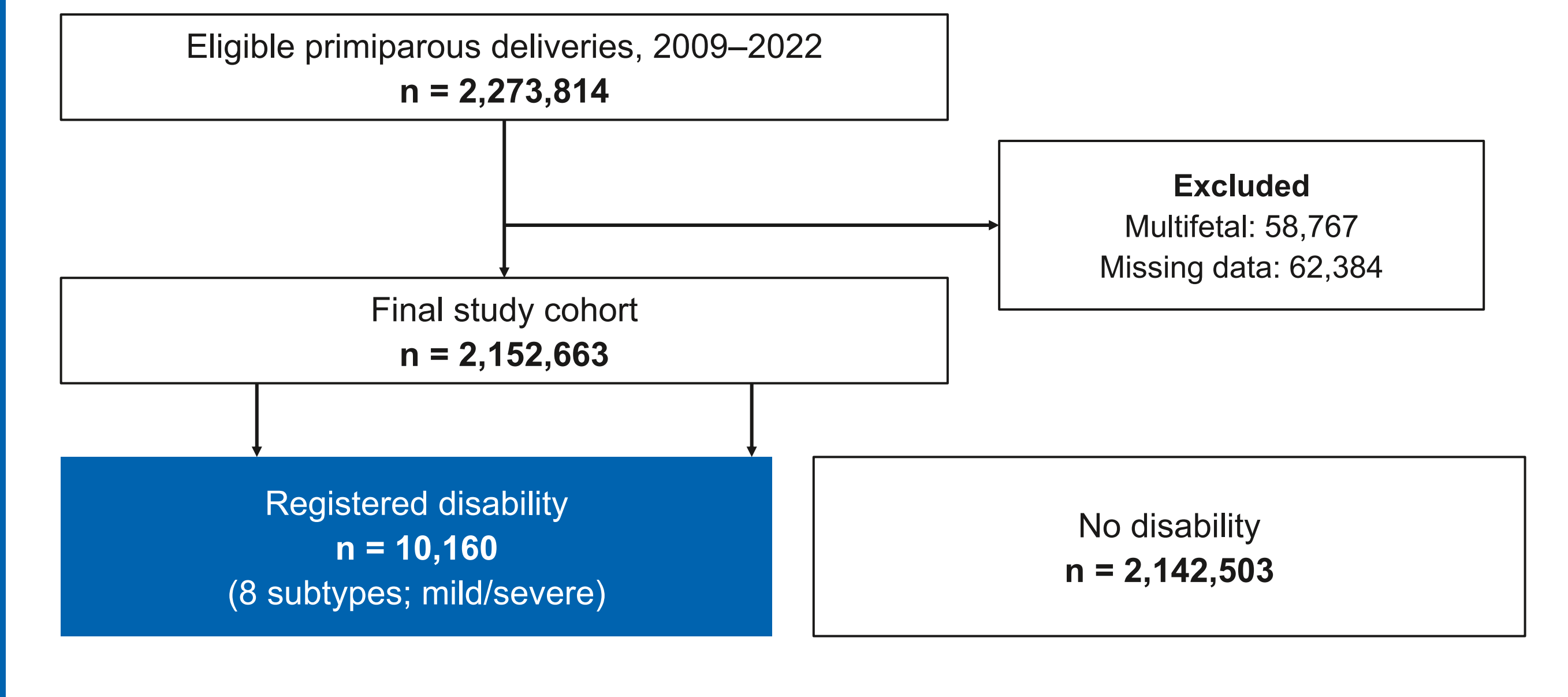


Figure 1. Study cohort selection and exposure groups.

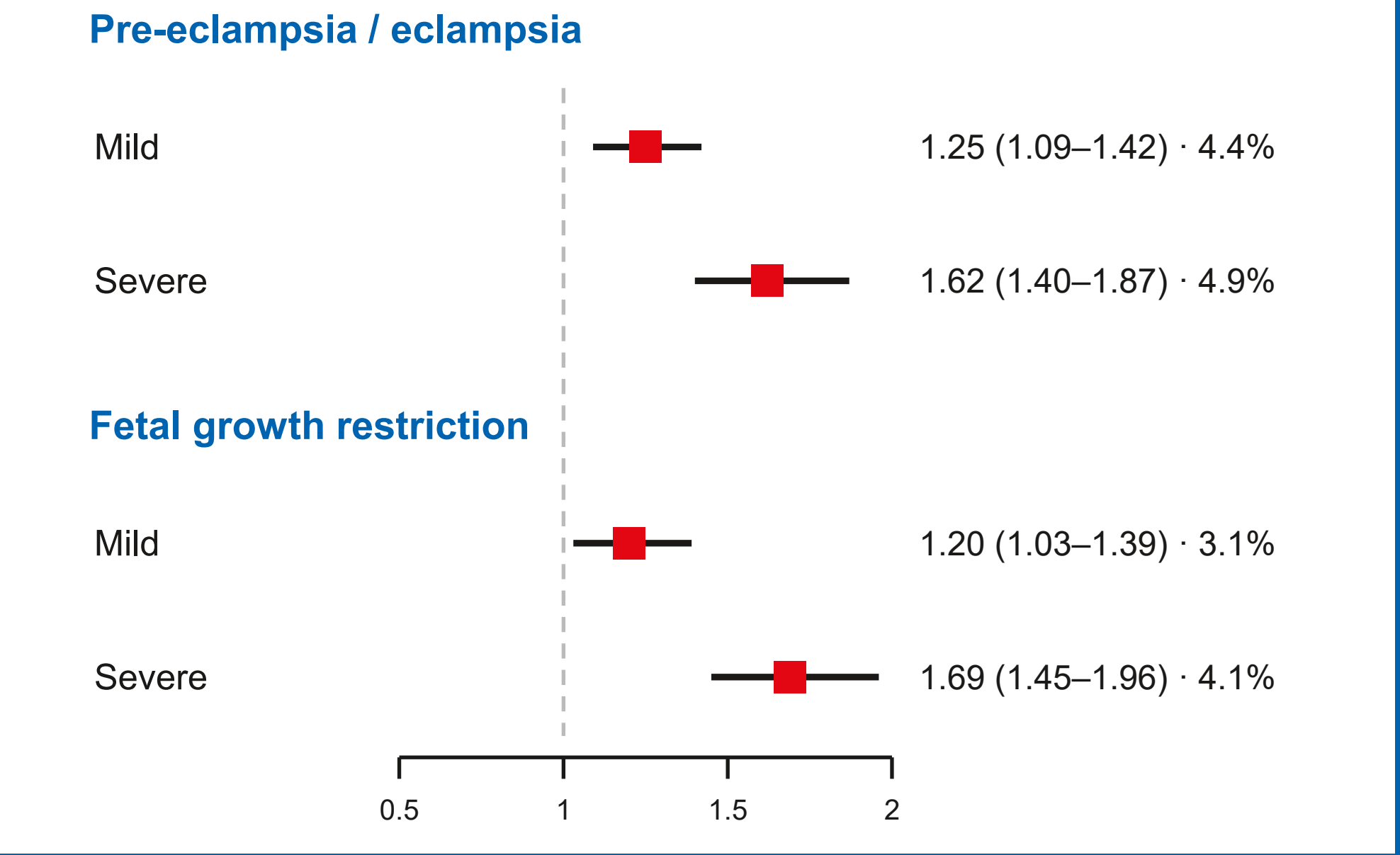


Figure 3. Fully adjusted odds ratios (95% CI) · absolute risk (%) for pre-eclampsia/eclampsia and FGR by disability severity.

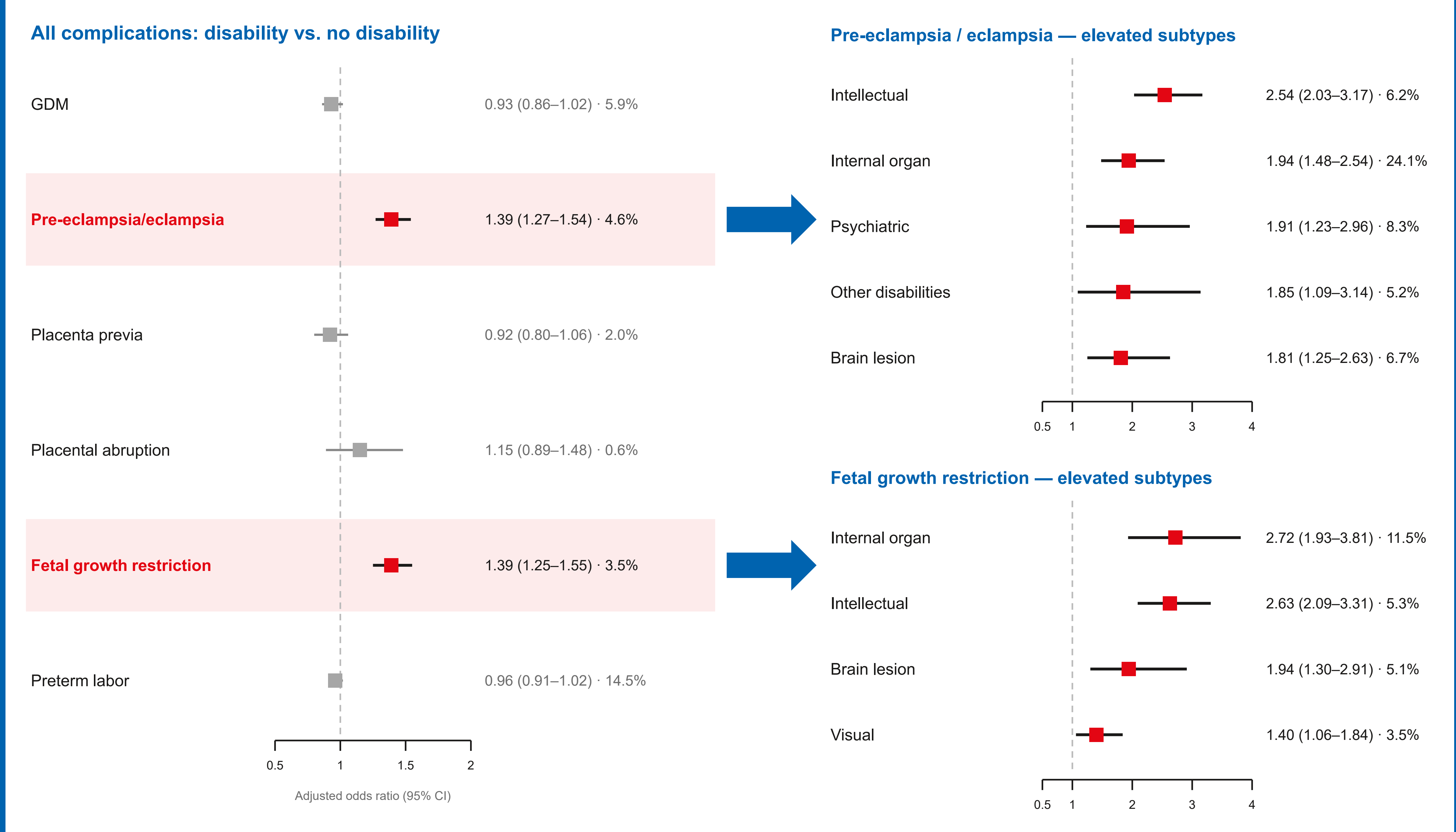


Figure 2. Fully adjusted odds ratios (95% CI) · absolute risk (%) among women with disabilities. Left: all pregnancy complications, disability vs. no disability (red = significant). Right: subtypes with significantly elevated risk of pre-eclampsia/eclampsia and FGR.