

# Identifying Risk-Factors Associated With Postpartum and child-rearing Depression Through Claims Data in Japan



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## Introduction

Postpartum depression is prevalent in Japan and depression from child-rearing (7-24 months after giving birth) also imparts a high burden on society. Understanding the risk-factors associated with postpartum and child-rearing depression can inform treatments and help patients avoid potentially harmful actions.

## Aim

To identify current trends and risk-factors for postpartum and child-rearing depression in Japan using DeCS-IQVIA Integrated Claims data

## Methods

### Databases:

- DeCS-IQVIA Integrated Claims data: Payer claims data of more than 25 million cumulative patients collected from the Health Insurance Association, National Health Insurance, and Medical Care System for the Advanced Elderly.

### Analysis Method:

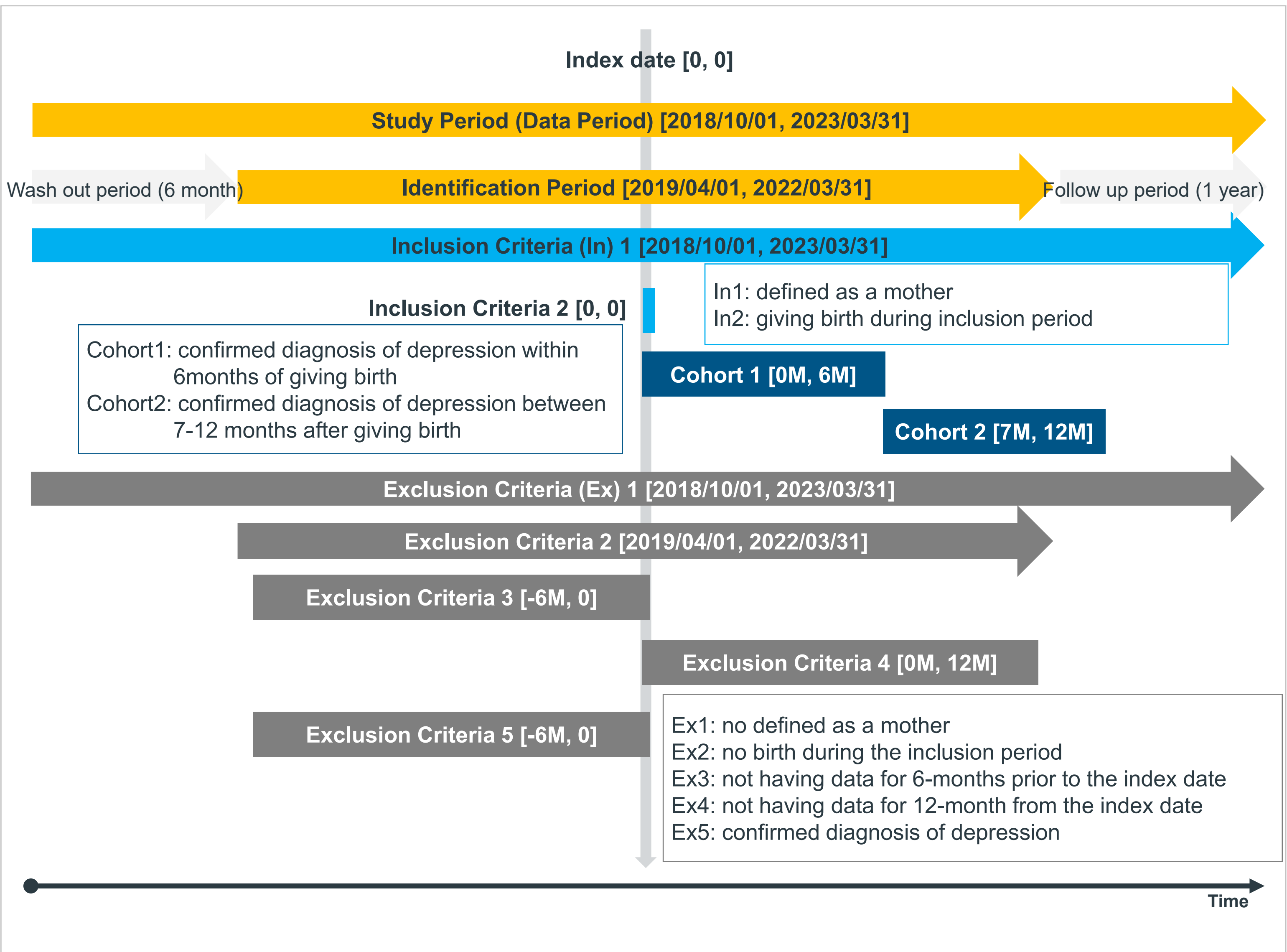
- 4 criteria to define mothers:
  - Patients with a unique parent-child ID are analyzed.
  - Within each ID group, the oldest male is considered the father candidate, and the oldest female the mother candidate.
  - A female is defined as the mother if she is the oldest in the group,
  - the age gap between the mother candidate and the first child(or if the age gap with the father candidate is <18 years and ≥16 years with the first child. )
- Subscribers identified as mothers of children born between April 2019 and March 2022.

### Figure 1. Study Design.

Study period: Oct 2018 – Mar 2023

Postpartum depression: New mothers who did not have a diagnosis of depression six months prior to giving birth and were diagnosed with depression within 6 months of giving birth.

child-rearing depression: New mothers who did not have a diagnosis of depression six months prior to giving birth and were diagnosed with depression between 7-12 months after giving birth.



## Conclusion

Some risk-factors associated with postpartum depression included birth order, insomnia and preterm birth including threatened preterm labor. Exploring treatments and behavioral changes around these areas may aid in reducing the prevalence of postpartum depression in Japan.

## Limitation

IQVIA Integrated Claims collects healthcare administrative data for those who are insured by three major Japanese payers. Like other health administrative databases, it is not a nationwide database and may cause selection bias.

## Results

Figure 2 . Flow Diagram for study participants

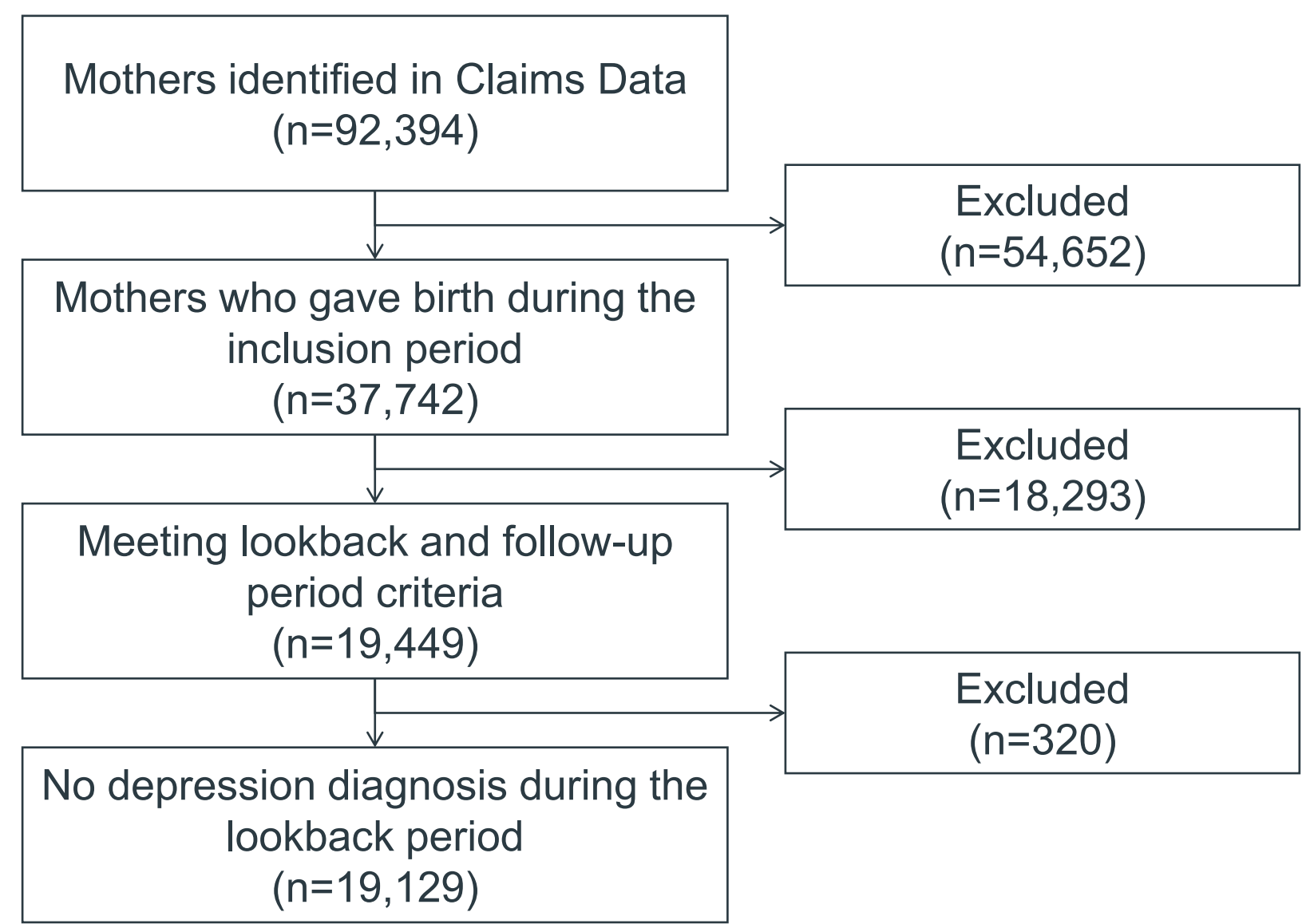
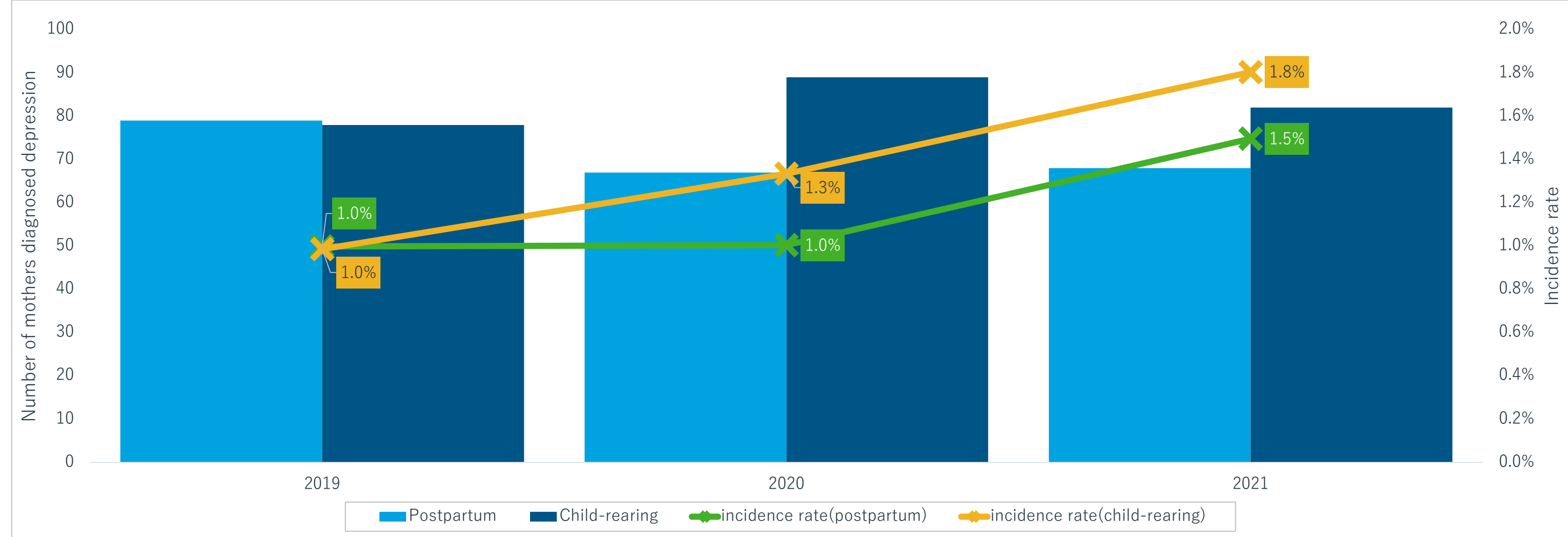


Table 1. Percentage of mothers defined postpartum or child-rearing depression

	Population and ratio
Total number of mothers	19,129
Postpartum depression	214 (1.1%)
Child-rearing depression	249 (1.3%)
non-depression	18,771 (98.1%)

Figure 3. Number of Depression patient by Year of Birth(FY)



Within our sample, postpartum depression was 1.0% in 2019 and 1.5% in 2022, while child-rearing depression was 1.0% in 2019 and 1.8% in 2022, indicating a gradual upward trend (Figure 3).

Figure 4 illustrates the monthly curve of depression onset by birth month, showing an upward trend in incidence rates since 2021.

Figure 4. Survival Analysis for depression after giving birth

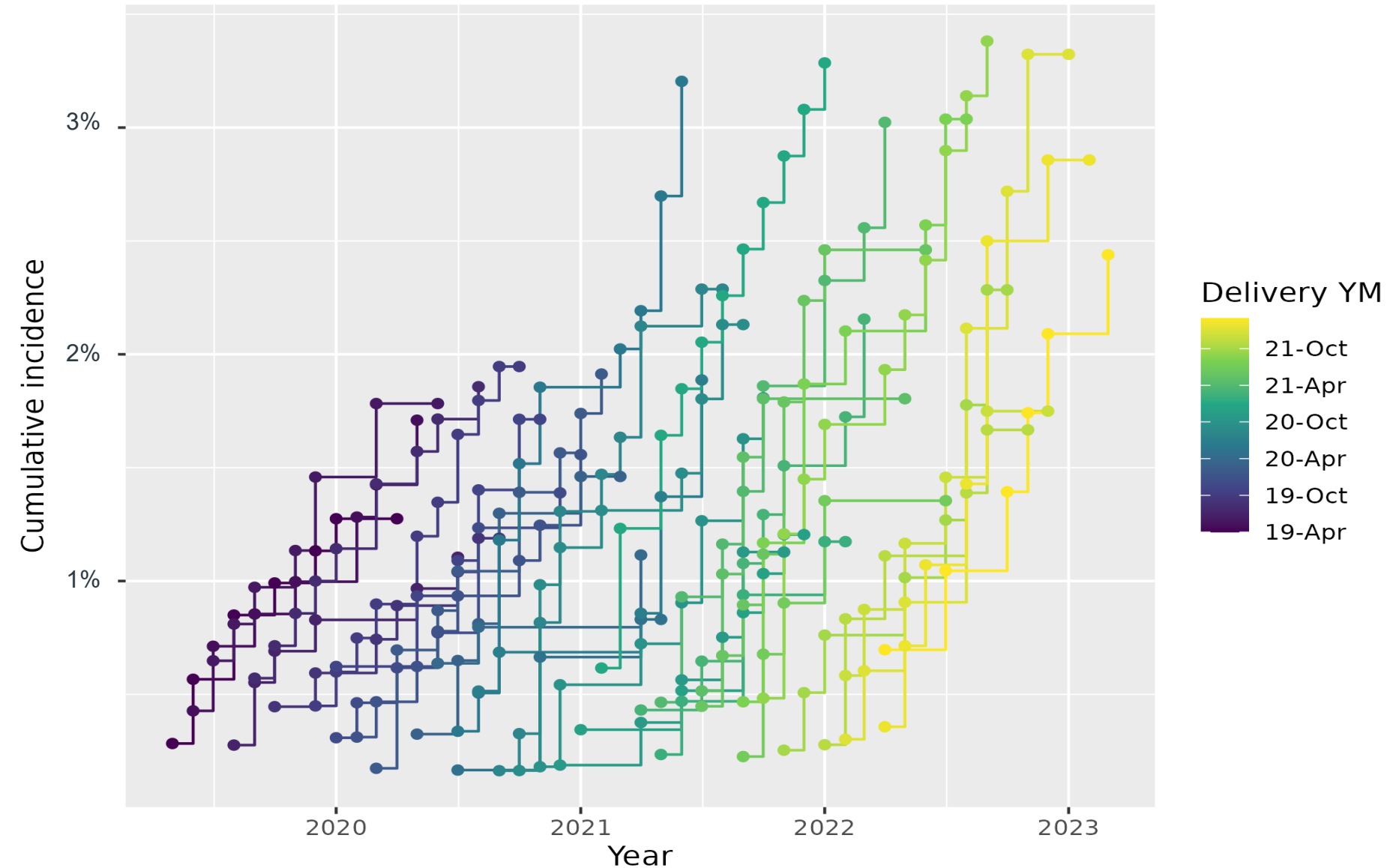
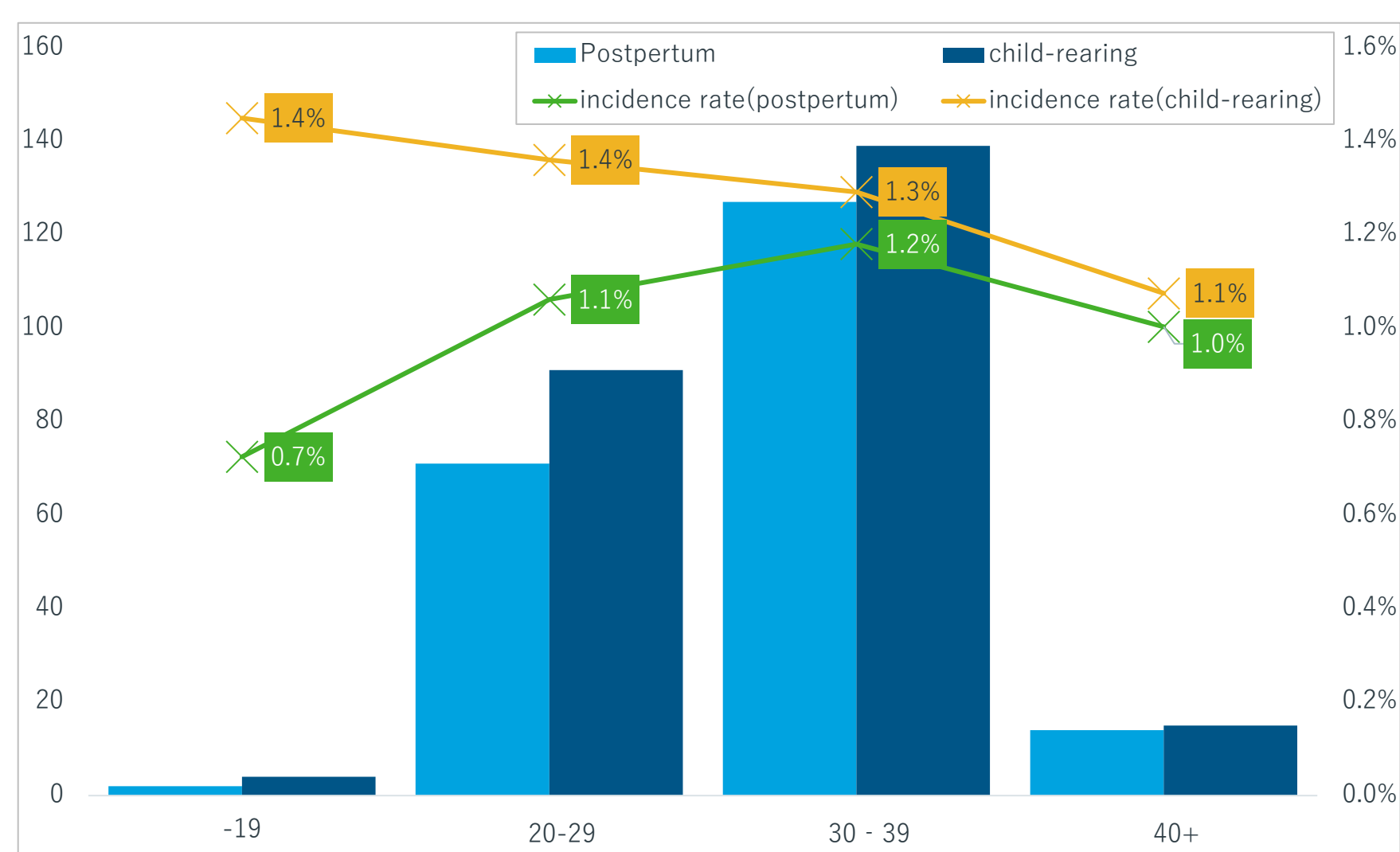


Figure 5. Number of Depression patient by age



Postpartum depression rates by age group were 0.7% in those aged ≤19 years, 1.1% in those aged 20–29 years, 1.2% in those aged 30–39 years, and 1.0% in those aged ≥40 years. Child-rearing depression rates were 1.4%, 1.4%, 1.3%, and 1.1%, respectively (Figure 5). By birth order, the incidence of postpartum depression was 1.3% for first-born children and 0.9% for later-born children, while child-rearing depression was 1.5% and 1.0%.

Figure 6. Number of depression patient by birth order

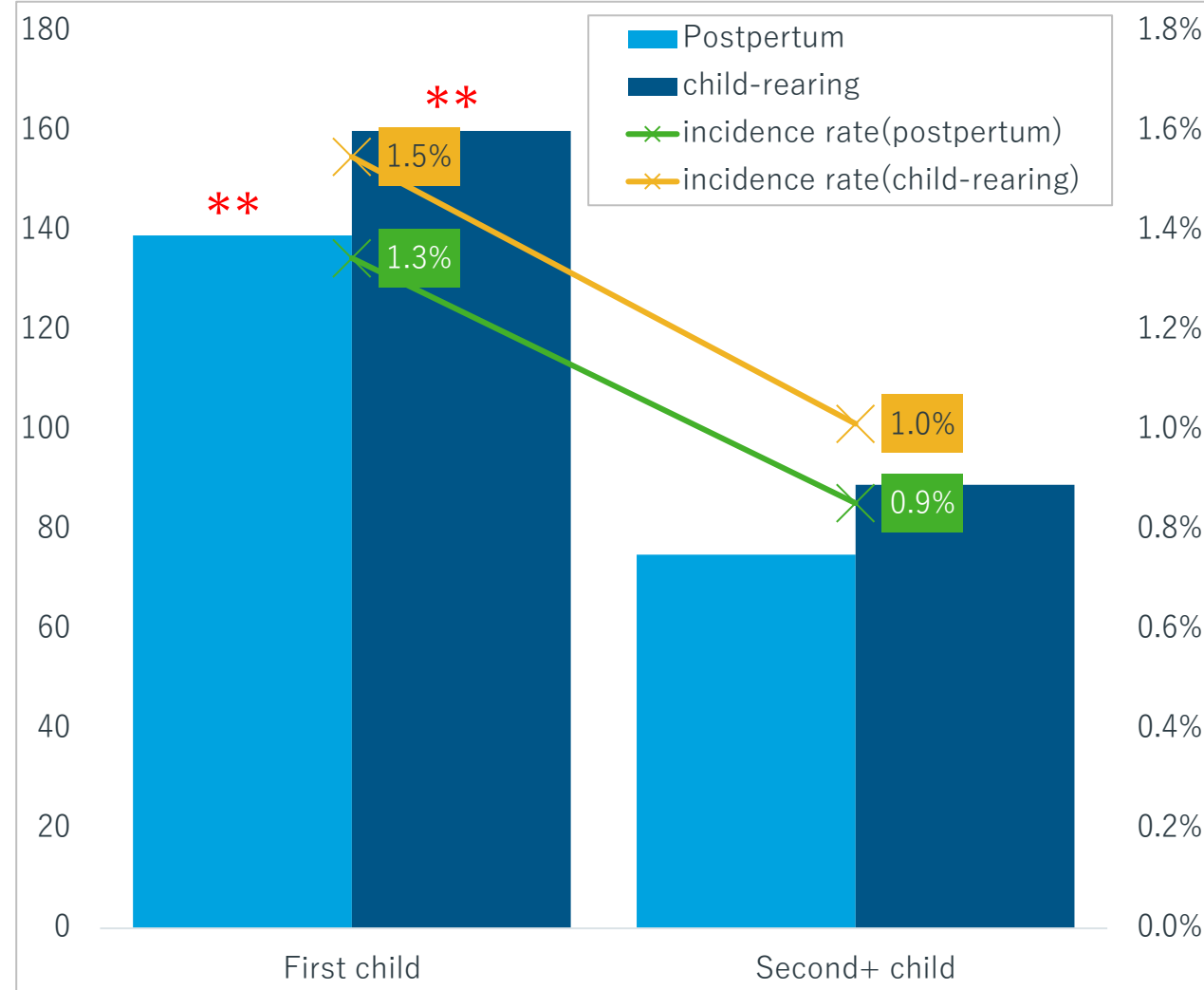
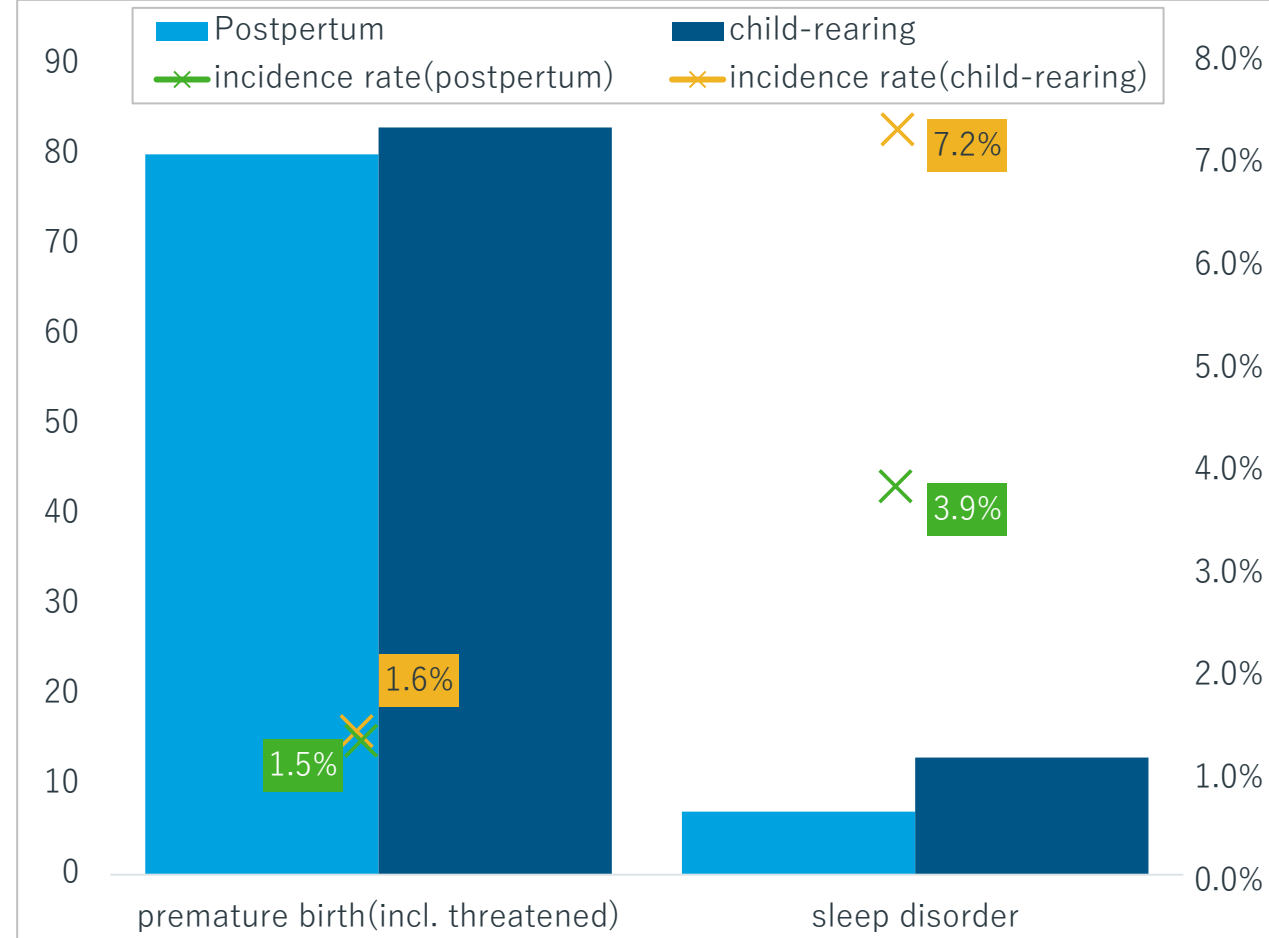


Figure 7. Number of depression patient by comorbidities



The hazard ratios for postpartum and child-rearing depression in first-borns were 1.63 and 1.53, respectively, both significantly higher ( $p<0.001$ ,  $p<0.001$ ). Focusing on comorbidities, the hazard ratios for postpartum and child-rearing depression were 1.49 and 1.24, respectively, in mothers with preterm birth or threatened preterm labor, with a significantly higher risk for postpartum depression ( $p<0.005$ ).For mothers with sleep disorders excluding sleep apnea, the hazard ratios were 3.07 for postpartum depression and 5.37 for child-rearing depression, both significantly elevated ( $p<0.004$ ,  $p<0.000$ ).

DISCLOSURES: All authors declare that they have no competing interests. All authors are IQVIA employees