

The Impact of Migraine and its Associated Treatment on Pregnancy Outcomes: Umbrella Review



Katherine Phillips, Conor Clerkin-Oliver, Benjamin Wakerley, Krishnarajah Nirantharakumar, Francesca Crowe

BACKGROUND

- Migraine is common in women and prevalence peaks during the reproductive years.
- Understanding the impact of migraine and associated treatments on pregnancy outcomes remains very important.

OBJECTIVES

- to identify and appraise higher level evidence (systematic reviews with or without meta-analysis) reporting on the association between migraine and its treatments and pregnancy outcomes
- to consolidate evidence from systematic reviews and meta-analyses using narrative synthesis and, where appropriate, quantitative synthesis
- to update existing systematic reviews and meta-analyses, where necessary.

DESIGN

An umbrella review of systematic reviews with or without meta-analyses of the association between migraine and pregnancy outcomes.

METHODS



Medline, Embase and Cochrane searched from inception to 27th October 2022

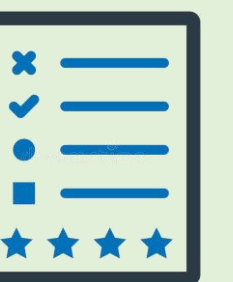


Restricted to systematic reviews and meta-analyses

Inclusion: studies of the association of migraine and migraine treatments with pregnancy outcomes



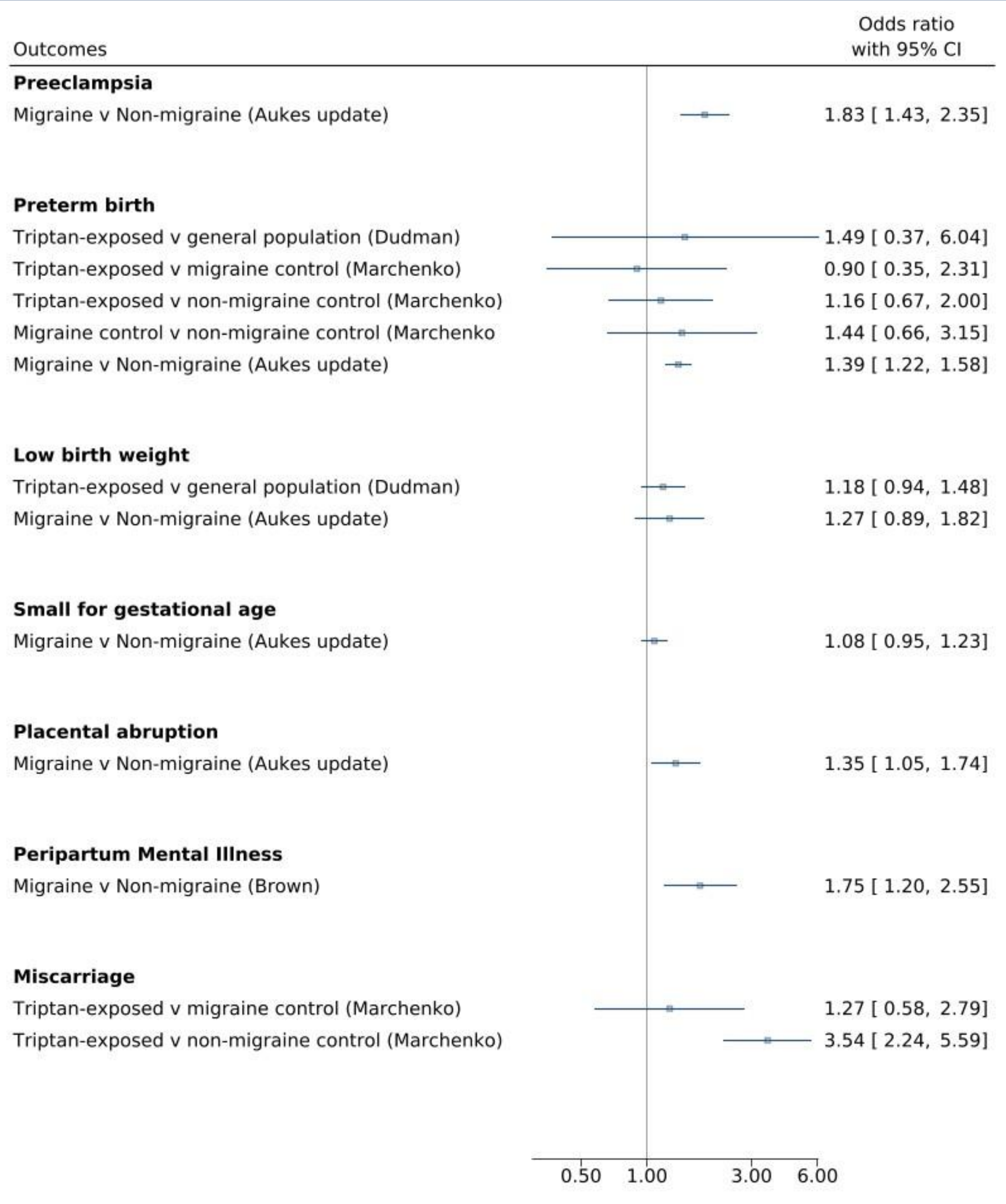
Quality appraisal carried out using the AMSTAR tool



Criteria for update for reviews:

- New studies published since review that meet inclusion
- Findings of new studies could potentially change conclusion of review

Figure 1: Forest plot summarising results of included reviews (Brown, Dudman, Marchenko) and updated review (Aukes)



RESULTS

- Four studies met review criteria.
- One study met eligibility criteria for update

Migraine was associated with a higher odds of:

Pre eclampsia (pooled OR 1.83)

Placental abruption (pooled OR 1.35)

Preterm birth (pooled OR 1.39)

Small for gestational age (pooled OR 1.08)

Peripartum Mental Illness (pooled OR 1.75)

Triptans were associated with a higher odds of:

Miscarriage (triptan exposed v healthy control) (pooled OR 3.54)

INTERPRETATION

- Migraine is thought to lead to endothelial dysfunction, hypercoagulability and a proinflammatory state. These changes are hypothesised to also affect the placenta.
- Regarding the association between triptans and miscarriage: migraine has also been found to be associated with miscarriage. Potential for “confounding by indication” needs to be further explored
- Further exploration of relationship between preterm birth, small for gestational age and low birth weight

CONCLUSION

Migraine is associated with increased odds of pre-eclampsia, low birth weight, peripartum mental illness, preterm birth and placental abruption.