

Comparison of amlodipine versus nifedipine for hypertension during pregnancy: a systematic review and meta-analysis

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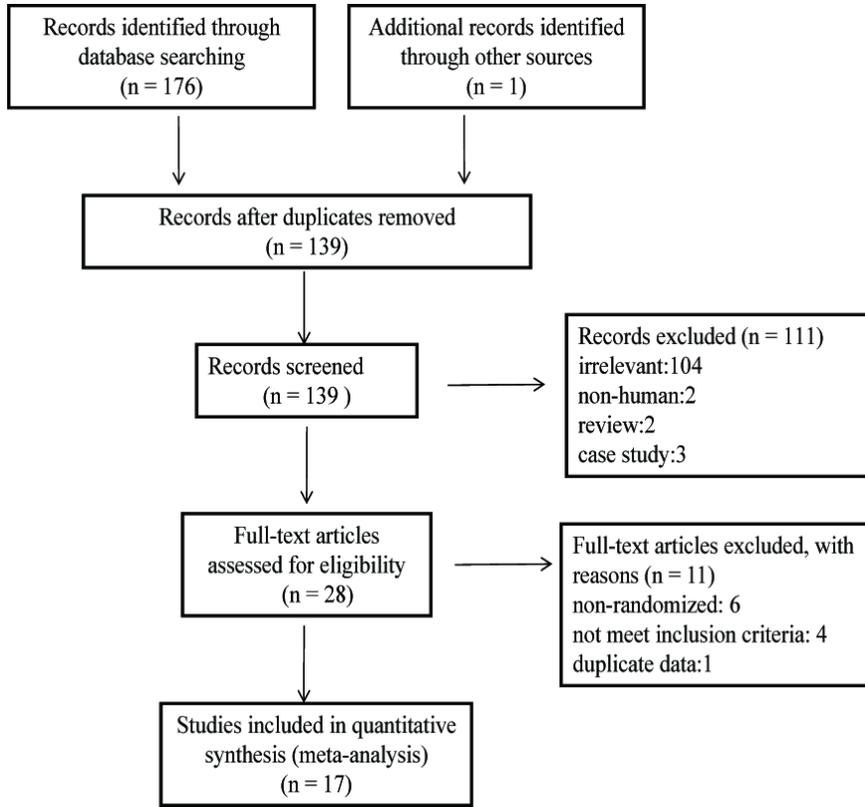
January 31, 2024

Abstract

Background: There is a lack of sufficient evidence regarding efficacy and safety of amlodipine on treating hypertension during pregnancy. **Objective:** To compare the efficacy and safety of amlodipine with nifedipine on hypertension during pregnancy. **Search strategy:** PubMed, Embase, Cochrane Library, clinicaltrials.gov, Chinese National Knowledge Infrastructure, Wanfang Database and China Biology Medicine disc were searched from inception to April 15, 2021. **Selection criteria:** Randomised controlled trials were included. **Data collection and analysis:** Data extraction was carried out by one researcher and checked by another. Results were reported as risk ratios (RR) for dichotomous outcomes or mean differences (MD) for continuous outcomes, with 95% confidence intervals (CI). **Results:** Seventeen RCTs were included. Amlodipine was found the efficacy is slightly superior to nifedipine on treating hypertension during pregnancy (RR 1.06, 95% CI 1.01 to 1.10) with a decreased risk for maternal side effects (RR 0.42, 95% CI 0.29 to 0.61). Subgroup analysis found amlodipine can get a better control on SBP (RR -11.68, 95% CI -17.98 to -5.37) and DBP (RR -7.44, 95% CI -13.81 to -1.06) compared with extended release nifedipine. In addition, there was no difference between amlodipine and nifedipine on pregnancy outcomes including caesarean section, premature labour, placental abruption, FGR, fetal distress, neonatal asphyxia. **Conclusions:** Given the results of this systematic review and meta-analysis, amlodipine can be effectively and safely used for hypertension during pregnancy. **Key words:** Amlodipine, Nifedipine, Hypertension during pregnancy, Meta-analysis **Tweetable abstract:** This review found that amlodipine is noninferior to nifedipine in managing hypertension during pregnancy.

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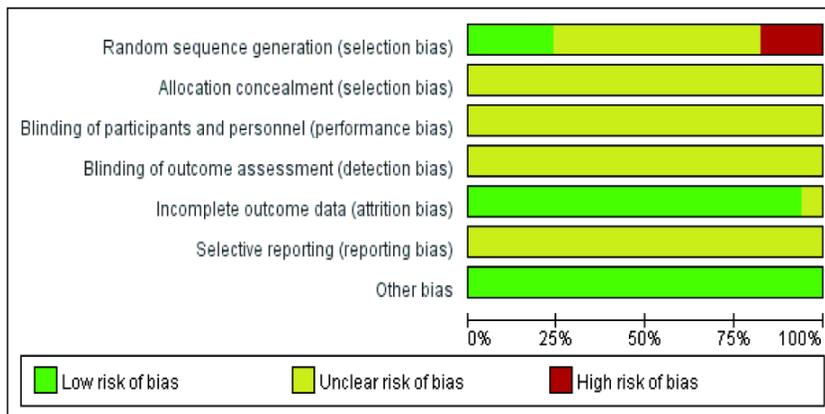
Comparison of amlodipine versus nifedipine for hypertension during pregnancy a systematic review and meta-analysis available at <https://authorea.com/users/732554/articles/710840-comparison-of-amlodipine-versus-nifedipine-for-hypertension-during-pregnancy-a-systematic-review-and-meta-analysis>

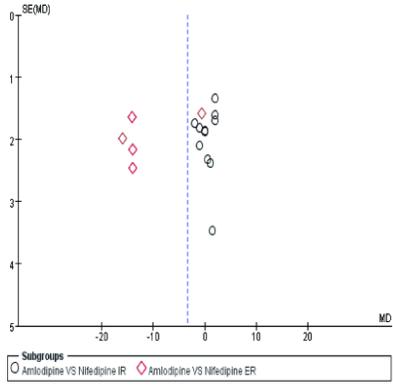


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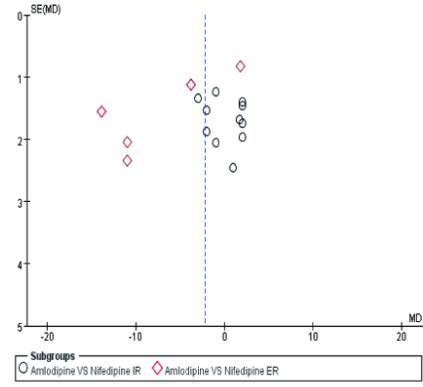
	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and personnel (performance bias)	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Selective reporting (reporting bias)	Other bias
Chen 2015	●	?	?	?	+	?	+
Gan 2013	?	?	?	?	+	?	+
Guan 2015	?	?	?	?	+	?	+
Hu 2015	?	?	?	?	+	?	+
Jin 2018	+	?	?	?	?	?	+
Li 2016	?	?	?	?	+	?	+
Liu 2015	+	?	?	?	+	?	+
Ruan 2014	?	?	?	?	+	?	+
WangFJ 2016	+	?	?	?	+	?	+
WangH 2018	●	?	?	?	+	?	+
WangZF 1997	?	?	?	?	+	?	+
Xiang 2016	?	?	?	?	+	?	+
Xin 2017	+	?	?	?	+	?	+
Yuan 2016	?	?	?	?	+	?	+
ZhangJS 2018	?	?	?	?	+	?	+
ZhangY 2019	?	?	?	?	+	?	+
Zhou 2017	●	?	?	?	+	?	+

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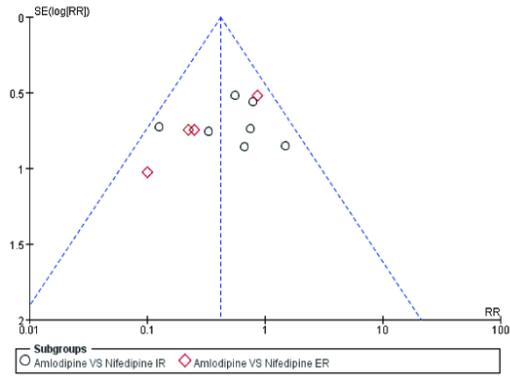




(a)



(b)



(c)

