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## **Effect of Magnesium Supplementation on Blood Pressure in Prediabetes and Hypomagnesemia Patients**

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**Objectives:** Effect of magnesium supplementation on blood pressure in previous clinical trials was inconsistent. Therefore, we conducted a meta-analysis to clarify the effect of magnesium supplementation on blood pressure in prediabetes and hypomagnesemia patients.

**Methods:** We have systematically searched electronic databases of Embase and PubMed within the past five years of period to find randomized controlled trials which assessed effect of magnesium supplementation on blood pressure in prediabetes and hypomagnesemia patients. Treatment effects were considered as mean difference (MD) and corresponding standard deviation (SD) of change systolic and diastolic blood pressure. Random-effect models were used to combine the estimated effects.

**Results:** A total of 2 randomized controlled trials (234 participants) were included in the meta-analysis. Our result suggested that magnesium supplementation significantly reduced systolic blood pressure (SBP) (-3.78 mmHg, 95% CI -7.45 to -0.10;  $p= 0.04$ ) and diastolic blood pressure (DBP) (-3.84 mmHg, 95% CI -6.49 to -1.18,  $p= 0.005$ ).

**Conclusions:** Magnesium supplementation had a positive effect on reducing blood pressure in prediabetes and hypomagnesemia patients. However, further studies with large-scale and better designs are needed to confirm this result.

Figure 1. Systematic review flow chart study inclusion

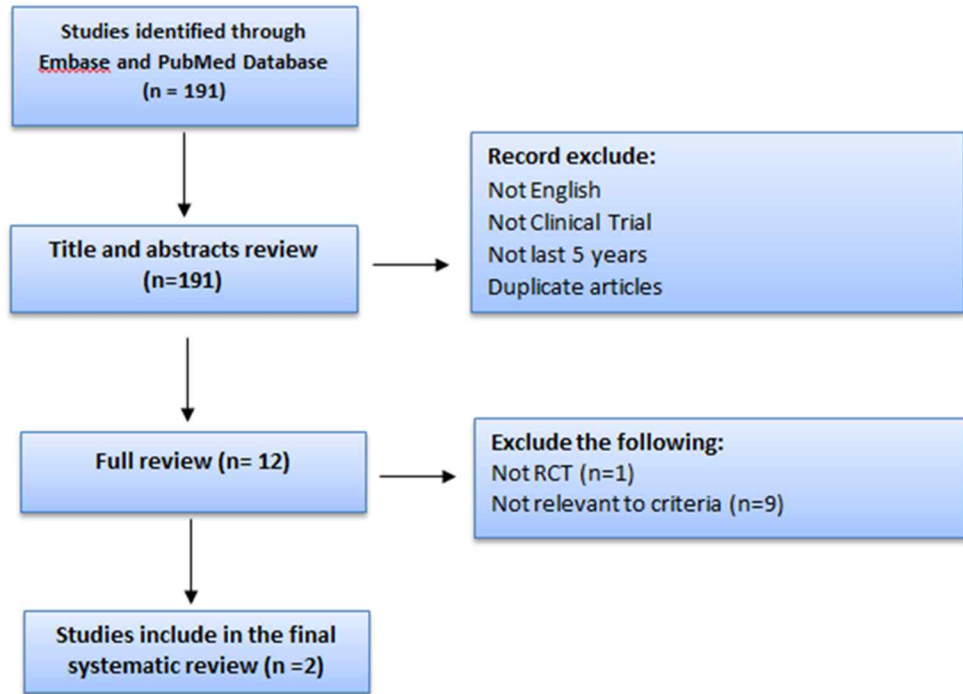


Figure 2. a) Forest plot of effect magnesium supplementation on SBP and b) DBP

