



# Vitamin D supplementation: should this be standard practice in pregnant women?

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**BACKGROUND:** Vitamin D is an essential nutrient. It is particularly important that pregnant women have sufficient vitamin D levels, as transfer of vitamin D from mother to fetus is essential for neonatal growth.<sup>1</sup> There is however a worldwide problem with vitamin D deficiency.<sup>2</sup> This especially affects women from the Middle East and women with darker skin colour but is also a problem for women of all ethnicities and from all global regions.<sup>3</sup> This Cochrane review set out to determine the impact of vitamin D supplementation in pregnant women with regard to maternal and neonatal outcomes.<sup>4</sup>

**CLINICAL BOTTOM LINE:** Supplementing pregnant women's diets with vitamin D was shown to reduce rates of pre-eclampsia, gestational diabetes and reduce the numbers of infants born with low birthweight. It did not however affect the number of preterm births.<sup>4</sup> As a note, trials did not measure pre-supplementation levels of vitamin D so it is not known if the majority of the participants were suffering from low vitamin D. Adverse effects due to the supplementation were also not well documented so it is unknown if this practice could have any deleterious effect. In addition, studies that supplemented vitamin D and calcium did show a slight increase in the numbers of women having a preterm birth and so routine supplementation with vitamin D in women already receiving calcium needs to be carefully considered.<sup>4</sup>

*Comparing Vitamin D supplementation given alone with placebo or no treatment*

Outcome measured	Success	Evidence	Harms
Pre-eclampsia	Women supplementing with vitamin D were less likely to have pre-eclampsia (79 (49–131) per 1000) than those receiving placebo (168 per 1000).	This evidence is of moderate quality and is based on 499 participants from four studies.	There were no adverse events associated with the supplementation of vitamin D but this outcome was not reported by the majority of studies.
Gestational Diabetes	Women supplementing with vitamin D were less likely to have gestational diabetes (65 (34–123) per 1000) than those receiving placebo (127 per 1000).	This evidence is of moderate quality and is based on 446 participants from four studies.	
Preterm Birth	There was no evidence of a difference in numbers of women experiencing a preterm birth between women who were supplementing with vitamin D (57 (29–113) per 1000) versus those receiving placebo (87 per 1000).	This evidence is of low quality and is based on 1640 participants from seven studies.	
Low Birthweight	Babies born to women supplementing with vitamin D were less likely to be of low birthweight (< 2500 g) (75 (48–118) per 1000) than babies born to women receiving placebo (136 per 1000).	This evidence is of moderate quality and is based on 697 participants from five studies.	

## References

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