Vitamin D supplementation in pregnancy

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Low vitamin D levels during pregnancy may account for neonatal hypocalcaemia and rickets in infants and children. Furthermore, they are currently associated with a variety of other pathologies, especially pregnancy complications like preeclampsia, intrauterine growth restriction, gestational diabetes, primary caesarean section and preterm delivery.

Vitamin D can be produced naturally in the skin by exposure to sunlight, which is the most important source for vitamin D (about 90% of the requirements) and can also be consumed by foods such as fatty fish, supplemented milk or mushrooms. However in northern latitudes, there is not enough UVB for synthesis in the winter period and therefore supplementation is needed to avoid vitamin D deficiency. Even in "sunny" countries, unsufficient levels are common, concerning from 40 to 60 % of the population.

There is no consensus about optimal Vitamin D (25(OH) D) levels and the international recommendations for supplementation vary widely, proposing between 400 IU/d and 2000 IU/d of Vitamin D3 during pregnancy.

The most recent (2012) Cochrane review on vitamin D supplementation for women during pregnancy reported a decrease of IUGR in supplemented women, but there is limited statistical significance and no evidence for prevention of other pregnancy complications was found. The authors conclude that further rigorous randomised trials are required to evaluate the role of vitamin D supplementation in pregnancy.

In conclusion: Vitamin D deficiency is a world-wide problem. Various pathologies have been associated with vitamin D deficiency, including adverse pregnancy outcomes. However, the benefit of supplementation concerning other organs than bone is not well established at present. Further studies are requested to evaluate the effects of vitamin D supplementation in pregnancy and to issue evidence-based guidelines.