

Vitamin D Supplementation in Tunisian Pregnant Women: Needs More Evidence?

Dear Editor,

Vitamin D deficiency in pregnancy remains widespread globally.^[1] Adequate Vitamin D status is needed for optimal pregnancy outcome. Very high prevalence of Vitamin D deficiency was reported in Tunisian mothers (98%) and their newborns (97%) with severe deficiency in most cases.^[2,3] Vitamin D deficiency exposes to adverse outcomes such as osteomalacia, preeclampsia, gestational diabetes, cesarean delivery, genital infection, preterm birth, low birth weight, hypocalcemia, and neonatal rickets.^[4] Previous Tunisian studies reported the association between inadequate Vitamin D status and the risk of fetal neural tube defects^[5] and preeclampsia.^[6] Although Tunisia is a sunny country, sun exposure was reported to be insufficient and dietary Vitamin D intake does not achieved the dietary reference intakes in most women.^[2,3] Thus, Vitamin D supplementation is needed.

There are persistent controversies about the need and the effectiveness of Vitamin D supplementation during pregnancy to improve pregnancy outcome.^[7,8] Recent updated Cochrane review states that supplementing pregnant women with Vitamin D increases serum 25-hydroxyvitamin D (25 (OHD)) at term and may reduce the risk of preeclampsia, low birth weight, and preterm birth.^[9] However, the review concluded that there were insufficient data to advise Vitamin D supplementation during pregnancy and recommended further high-quality research to answer more evidence of the effectiveness of Vitamin D supplementation on maternal and offspring outcomes.

Recent reviews reported significant increase in circulating 25 (OHD) in pregnant women who received Vitamin D supplementation and suggested that Vitamin D supplementation can safely be utilized during pregnancy.^[8,9]

For Tunisian pregnant women, given the high prevalence and the severity of Vitamin D deficiency, it would be relevant to establish Vitamin D supplementation to achieve adequate Vitamin D status. Recent recommendations indicate that pregnant women should receive 600 IU/day of supplemental Vitamin D to ensure adequacy of maternal serum 25 (OHD) levels.^[10] There is continuing controversy over the appropriate dose of Vitamin D supplementation during pregnancy. The recommendation does not consider the severity of deficiency. Hence, there are some concerns in generalizing recommendations. A recent study conducted in a population of pregnant women with severe Vitamin D deficiency reported that with doses as high as 4000 IU/day, normalization of Vitamin D status was achieved in only

15% of the studied population. In view of the recent literature data, we recommend research to determine the appropriate doses of Vitamin D supplementation in Tunisian pregnant women, and we wish to appeal policies maker for introducing Vitamin D supplementation in the Tunisian prenatal care program.

In conclusion, Vitamin D deficiency is prevalent in Tunisian pregnant women and was reported to be associated with adverse outcomes in mothers and their newborns. We hope for soon Tunisian recommendations of Vitamin D supplementation during pregnancy.

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Conflicts of interest

There are no conflicts of interest.

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References

1. Saraf R, Morton SM, Camargo CA Jr. Grant Global summary of maternal and newborn Vitamin D status – A systematic review. *Matern Child Nutr* 2016;12:647-68.
2. Ayadi ID, Nouaili EB, Talbi E, Ghdemssi A, Rached C, Bahlous A, *et al.* Prevalence of Vitamin D deficiency in mothers and their newborns in a Tunisian population. *Int J Gynaecol Obstet* 2016;133:192-5.
3. Fenina H, Chelli D, Ben Fradj MK, Feki M, Sfar E, Kaabachi N. Vitamin D deficiency is widespread in tunisian pregnant women and inversely associated with the level of education. *Clin Lab* 2016;62:801-6.
4. Lapillonne A. Vitamin D deficiency during pregnancy may impair maternal and fetal outcomes. *Med Hypotheses* 2010;74:71-5.
5. Nasri K, Ben Fradj MK, Feki M, Kaabechi N, Sahraoui M, Masmoudi A, *et al.* Maternal 25-Hydroxyvitamin D level and the occurrence of neural tube defects in Tunisia. *Int J Gynaecol Obstet* 2016;134:131-4.
6. Fares S, Sethom MM, Khouaja-Mokrani C, Jabnoun S, Feki M, Kaabachi N. VitaminA, E, and D deficiencies in tunisian very low birth weight neonates: Prevalence and risk factors. *Pediatr Neonatol* 2014;55:196-201.
7. De-Regil LM, Palacios C, Ansary A, Kulier R, Peña-Rosas JP. Vitamin D supplementation for women during pregnancy.

- Cochrane Database Syst Rev 2012;15:CD008873.
8. Harvey NC, Holroyd C, Ntani G, Javaid K, Cooper P, Moon R, *et al.* Vitamin D supplementation in pregnancy: A systematic review. *Health Technol Assess* 2014;18:1-190.
 9. De-Regil LM, Palacios C, Lombardo LK, Peña-Rosas JP. Vitamin D supplementation for women during pregnancy. *Cochrane Database Syst Rev* 2016;14:CD008873.
 10. Pludowski P, Holick MF, Grant WB, Konstanynowicz J, Mascarenhas MR, Haq A, *et al.* Vitamin D supplementation guidelines. *J Steroid Biochem Mol Biol* 2017. pii: S0960-076030031-6.

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