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## Chapter 26 - Vitamin D, Pregnancy, and Autoimmunity: An Ongoing Mystery

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### Abstract

Vitamin D is a steroid hormone with canonical roles in calcium metabolism and bone modeling. Emerging evidence suggests that vitamin D may have a plethora of other functions including immunological effects, a role in regulating human reproductive processes, and the occurrence and development of autoimmune disease. Despite this, vitamin D deficiency remains highly prevalent worldwide because of the limited availability of foods that are naturally high or fortified with vitamin D, increased sun avoidance behaviors and use of sunscreen because of fear of skin cancer, and increased sedentary indoor lifestyles, especially among those of reproductive age. This review focuses on current and emerging evidence for the role of vitamin D in pregnancy and autoimmunity. We found that existing evidence is based primarily on some recent observational and interventional studies in humans. Although these studies demonstrate that vitamin D deficiency may be a risk factor for adverse pregnancy outcomes and autoimmune diseases, there is insufficient evidence to establish causality. Therefore, future efforts to clarify the benefits of vitamin D in pregnancy and autoimmune diseases may bring about practical, simple, and cost-effective means of improving pregnancy outcomes and autoimmune diseases.

## Keywords

Autoimmune disease; Pregnancy; Supplementation; Vitamin D

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