Vitamin D deficiency: A potential risk factor for *Clostridium difficile* infection

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In the July 3, 2012 issue of the journal of Risk Management and Healthcare Policy, Martinez et al present a nice review on *Clostridium difficile* (*C. difficile*) infections.

Vitamin D deficiency has reached a pandemic status. Vitamin D has an important role in boosting the innate immunity, and thus preventing infections. We have recently reviewed the potential role of vitamin D in the prevention of hospital acquired infections. In a veterans study, vitamin D deficiency in patients with *C. difficile* was associated with significantly increased total costs and fee-based consultation. The deficient patients had five times higher costs than the non-deficient patients. Most cells have vitamin D receptors and vitamin D has a plethora of actions leading to boosting innate immunity including increased oxidative burst of macrophages and enhancing neutrophil motility and phagocytic function, T cell activation and increased expression of antimicrobial peptides, such as cathelicidin, and beta-defensins. While awaiting additional confirmatory studies of the antimicrobial effects of vitamin D, there are sufficient benefits including better intensive care unit outcomes, for the authors to include a vitamin D replete state as a part of their therapeutic approach. Vitamin D is inexpensive and has the potential to tilt the balance in favor of patients with this devastating infection.

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References