

# LETTER TO EDITOR

## Do we need vitamin D screening and supplementation in critically ill patients?

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### Dear Editor

Vitamin D deficiency or insufficiency affects about 30% of children and 60% of adults across the world (1). This condition also occurs in about 70% of critically ill patients (2). Although vitamin D is typically known as a fat-soluble vitamin in bone metabolism, it is a steroid hormone with pleiotropic effects (3). Vitamin D deficiency can lead to cardiovascular, neurological, and autoimmune diseases and different types of cancers, including the breast, prostate, lung, colon, and renal cancers. Accordingly, this deficiency has a direct correlation with mortality (4-6).

Many critically ill patients enter the Intensive Care Unit (ICU) with a deficient level of vitamin D. Disrupted metabolism of vitamin D in some critically ill patients results in a fast decrease in vitamin D levels after ICU admission (7). It has been well documented that vitamin D deficiency is associated with increased morbidity, mortality, and ICU length of stay (8, 9). The randomized clinical trials having been performed in recent years are indicative of no significant improvement in the clinical outcome of critically ill patients supplemented with vitamin D (10).

The ICU admission can be predicted in several conditions, such as some elective surgeries and intensive chemotherapies (7). Furthermore, one of the problems of the studies performed till now is that they have not exclusively investigated the

patients with vitamin D deficiency. However, the exclusive inclusion of patients with vitamin D deficiency can lower the sample size for a clinical trial.

It is required to perform randomized clinical trials with a reasonable sample size to investigate the effect of vitamin D supplementation among vitamin D deficient patients who are in a critical medical state. These studies will be useful for the better conceptualization of treatment with vitamin D in critically ill patients.

### Conflicts of Interest

There is no conflict of interest to be declared.

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