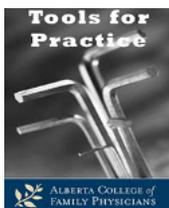


COVID-19 Rapid Reviews

Along with regular Tools for Practice, the PEER team will be writing rapid reviews to address COVID-19 topics relevant for primary care. The evidence is changing rapidly and it is possible that as you read this, new evidence will already be available. We will try our best to stay in front and keep you up-to-date during these challenging times.



COVID-19 and Vitamin D: Partners in Crime, or Simply Associates?

Clinical Question: Does Vitamin D help prevent or treat COVID-19?

Bottom Line: While observational evidence suggests an association between low vitamin D levels and COVID-19 infection, it is unclear if this is simply reflective of overall health status. There are no randomized, controlled trials (RCTs) assessing vitamin D for prevention of COVID-19 infections. The highest quality RCT of vitamin D treatment during hospitalization did not demonstrate benefit for clinical outcomes.

Evidence:

- 3 RCTs assessed treatment in hospitalized patients with COVID-19, all received standard care in addition to oral:
 - Cholecalciferol 200,000 IU once versus placebo (240 patients, unpublished preprint).¹
 - No difference in length of stay (both 7 days).
 - No difference mortality, ICU admission or ventilation.
 - Calcifediol (~21,000 IU) on day 1, (~10,000 IU) days 3 and 7, then once weekly versus usual care (76 patients, pilot study). Study length not reported.²
 - Vitamin D group showed:
 - Significant reduction ICU admission 1/50 (2%) versus 13/26 (50%).
 - Mortality 0/50 versus 2/26 (8%), not statistically different.
 - Limitations: Unbalanced randomization (more diabetes and hypertension in control), patients and physicians not blinded.
 - Cholecalciferol 60,000 IU daily x 7 days versus placebo in 40 patients with mild or no COVID-19 symptoms and Vitamin D deficient [25(OH) D <20ng/ml].³
 - Significantly more patients tested negative for COVID-19 within 21 days with vitamin D supplementation.
 - Limitations: Unclear randomization concealment and blinding, clinical outcomes not reported.
- There are no published RCTs evaluating the use of Vitamin D for prevention of COVID-19.

- Systematic reviews of observational studies generally demonstrate an association of low Vitamin D levels with COVID-19 infection and severity of infection, although included studies are often at high risk of bias.⁴⁻⁶

Context:

- Low vitamin D is associated with poor health⁷ and it is unclear if low vitamin D levels are causative or simply reflect health status.
- Additional confounders linked to COVID-19 severity and low vitamin D levels⁷ include higher body mass index, diabetes, older age, and Black race/ethnicity (versus non-Hispanic white).⁸
- Current guidelines recommend against Vitamin D supplementation solely for prevention or treatment of COVID-19.⁹

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Disclosures:

Authors do not have any conflicts of interest to declare.

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