

Should B Vitamins be used in the treatment of COVID-19?

 Authors: Maria Vanessa Villarruz-Sulit, RN, MSc (Clinical Epidemiology), <u>essie.v.sulit@gmail.com</u> lan Theodore Cabaluna, MD
Date of Review: 29 MARCH 2020 (version #1)
Last Updated: 29 MARCH 2020 (version #1)

KEY FINDINGS

There is currently insufficient evidence regarding the effectiveness of B Vitamins in the treatment of COVID-19. Studies on other vitamins are being done, but not on B Vitamins.

- B vitamins are water-soluble vitamins that seems to play a major role in the body's immune system.
- There are currently no evidence for its use on COVID-19 patients, and no trials are ongoing to test its effects.
- B vitamins are generally considered safe as any excess is excreted in the urine, but still large doses should not be taken.
- There is no mention of B vitamins in the WHO Interim Guidance, US CDC Clinical Interim Guidelines and Chinese Clinical Guidance for COVID-19 management.

Disclaimer: The aim of these rapid reviews is to retrieve, appraise, summarize and update the available evidence on COVID-related health technology. The reviews have not been externally peer-reviewed; they should not replace individual clinical judgement and the sources cited should be checked. The views expressed represent the views of the authors and not necessarily those of their host institutions. The views are not a substitute for professional medical advice.

Copyright Claims: This review is an intellectual property of the authors and of the Institute of Clinical Epidemiology, National Institutes of Health-UP Manila and Asia-Pacific Center for Evidence Based Healthcare Inc.

RESULTS

As of this date, there are no clinical trials specifically exploring the effect of B vitamins on patients infected with COVID-19. In 2016 there was a study by Kiel that showed that riboflavin and UV light effectively reduced the titer of MERS-CoV in human plasma suggesting that this treatment may reduce the risk of transfusion transmission in both platelet and plasma products.¹⁰ However, this was not a clinical trial.

CONCLUSION

As of this writing, there is insufficient evidence regarding the effectiveness of B vitamins for COVID-19 patients and there are currently no ongoing trials on the topic.

Declaration of Conflict of Interest

No conflict of interest

REFERENCES

- 1. Zhang L, Liu Y. Potential interventions for novel coronavirus in China: A systematic review. J Med Virology 2020; 92:479-490.
- Haider BA, Bhutta ZAHaider BA, Bhutta ZA.Multiple-micronutrient supplementation for women during pregnancy. Cochrane Database of Systematic Reviews2017, Issue 4. Art. No.: CD004905.DOI: 10.1002/14651858.CD004905.pub5.
- Das JK, Salam RA, Mahmood SB, Moin A, Kumar R, Mukhtar K, Lassi ZS, Bhutta ZADas JK, Salam RA, Mahmood SB, Moin A, Kumar R, Mukhtar K, Lassi ZS, Bhutta ZA. Food fortification with multiple micronutrients: impact on health outcomes in general population. Cochrane Database of Systematic Reviews 2019, Issue 12. Art. No.: CD011400. DOI: 10.1002/14651858.CD011400.pub2.
- 4. Young LM, Pipingas AP, White DJ, Gauci S, Scholey A. A systematic review and meta-analysis of B vitamin supplementation on depressive symptoms, anxiety, and stress: effects on healthy and 'at-risk' individuals. Nutrients 2019 Sep; 11(9): 2232.
- Schandelmaier S, Briel M, Saccilotto R, Olu KK, Arpagaus A, Hemkens LG, Nordmann AJ. Niacin for primary and secondary prevention of cardiovascular events. <u>Cochrane Database Syst Rev.</u> 2017 Jun 14;6:CD009744. doi: 10.1002/14651858.CD009744.pub2.
- Galan P, Kesse-Guyot E, Czernichow S, Briancon S, Blacher J, Hercberg S for the SU.FOL.OM3 Collaborative Group. Effects of B vitamins and omega 3 fatty acids on cardiovascular diseases: a randomised placebo controlled trial. BMJ. 2010; 341 doi: <u>https://doi.org/10.1136/bmj.c6273</u> (Published 29 November 2010)
- 7. The VITATOPS Trial Study Group. B vitamins in patients with recent transient ischaemic attack or stroke in the VITAmins TO Prevent Stroke (VITATOPS) trial: a randomised, double-blind, parallel, placebo-controlled trial. Lancet Neurol. 2010. 9: 855-65.
- 8. Albert CM, Cook NR, Gaziano JM, Zaharris E, MacFadyen J, Danielson E, Buring JE, Manson JE. Effect of folic acid and B vitamins on risk of cardiovascular events and total mortality among women at high risk for cardiovascular disease: a randomized trial. JAMA. 2008. 299(17): 2027-2036.
- 9. Fratoni V, Brandi ML. B Vitamins, homocysteine and bone health. Nutrients. 2015. 7: 2176-2192. doi:10.3390/nu7042176
- Keil SD, Bowen R, Marschner S. Incactivation of Middle East respiratory syndrome coronavirus (MERS-CoV) in plasma products using a riboflavin-based and ultraviolet light-based photochemical treatment. Transfusion. 2016. 56: 2948-2952.