



Promising Nutrients for Boosting Happy Chemicals in post-COVID Depression: Recent evidences

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Introduction

Recent research found that approximately one third of all COVID sufferers develop post-COVID anxiety, depression or other neuropsychiatric conditions within six months of contracting the virus. Dopamine, serotonin, oxytocin and endorphin are known as the happy chemicals. They have important role in maintaining happy mood and prevent depression. All these chemicals are synthesized from amino acids. Recently, altered amino acids profile after corona virus infection has been reported, which revealed deficiency of some of the amino acids essential for the synthesis of happy chemicals and might have role in post-COVID mental well being.

Objectives

To gather updated information about the effect of diet and nutrition on the level of happy chemicals in the body.

Conclusion

Very few articles were found on this topic. However, updated knowledge on the effect of nutrients on the level of happy chemicals in the body and supplement them in patients with corona virus infection might help to prevent post-COVID anxiety and depression.

Meet Your Happy Chemicals

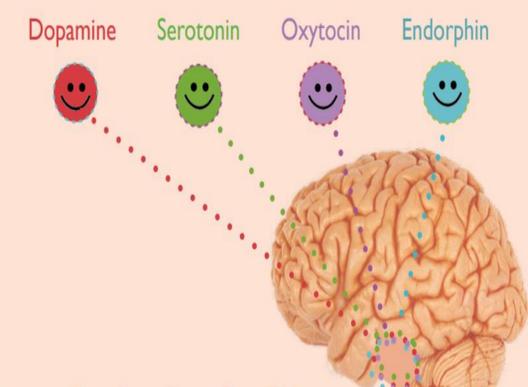


image source: Loretta GB 2012

Results and Discussion

Subjects	Findings	Authors
High fat western diet to 7 weeks old male C57BL/6 J mice for 12 weeks (n=20).	Reduced baseline dopamine release and attenuated dopaminergic response to dopamine transporter inhibitor compared to the control group.	Estes MK 2021
Mice fed high-fat diet were treated with water-soluble polysaccharide (WSP) of Opuntia humifusa stems orally for 4 weeks.	WSP improved the gastrointestinal health by increasing serotonin -positive cells and boosted immune functions by increasing the expression of CD4+ cells and nitric oxide synthase.	Yang EI 2019
Rats (n = 43) treated with fenugreek -supplemented diet during lactation.	Pituitary oxytocin expression were significantly increased.	Sevrin T 2020
Rosmarinus officinalis extract (RE) supplementation in mice for 7 days.	RE significantly increased central oxytocin , oxytocin receptor expression and oxytocin protein levels. RE also significantly attenuated stress-induced changes in serum corticosterone, brain and serum BDNF levels, and brain neurotransmitters levels in both models.	Sasaki K 2021
Children with ADHD received 2000 IU vitamin D /day (n=46) or a placebo (n=40) for 12 weeks.	Dopamine significantly increased in the vitamin D group, compared to the placebo group. However, serum BDNF and serotonin levels did not change significantly.	Seyedi M 2019
Children with autism spectrum disorder received probiotics + fructose oligosacchride (FOS) (n=16) or placebo supplementation (n = 10).	Increase in beneficial bacteria, suppression of suspected pathogenic bacteria, significant reduction in the gastrointestinal symptoms and severity of autism, significantly higher level of short chain fatty acids, increased serotonin and decreased dopamine metabolism end product homovanillic acid were observed as compared to children in the control group.	Wang Y 2020

Methodology

Search Engine: Pubmed and google scholar

key words
corona virus infection combined with dopamine, serotonin, oxytocin, endorphin, tyrosine, tryptophan and nutrients

Till date

Exclusion of duplicate and non relevant studies

Total 6 studies

References

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