



## Could Increasing Your Omega 3 Status Help Maintain a Healthy Weight and Mood?

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A new study describes the relationship between omega-3s, chronic inflammation, metabolism and mood disorders

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### Key Points

- A new publication by Wu et al. discusses the promising alternative of omega-3 fatty acids in addressing these conditions, especially since pharmacotherapy fails to adequately treat major depressive disorder in at least 30-40% of cases
- Omega-3s have been shown to reduce levels of inflammation and help regulate metabolic dysfunction, leading to improved body composition and weight
- The authors stress the importance of personalized omega-3 dosing for individuals to achieve a potential therapeutic action in addressing depression, obesity, and metabolic dysregulation; this includes measuring the omega-3 status to determine an optimal dose and monitoring levels of inflammation, which can be done through a combination of testing the Omega-3 Index, the AA:EPA Ratio, and levels of CRP

Metabolic dysfunction is characterized by inflammation, insulin resistance, leptin resistance, and hypertension. Individuals with metabolic dysfunction are at much higher risk for both obesity and depression. It is a condition that can even lead to structural and functional changes within the brain.

Research indicates that chronic low-grade inflammation, which results in increased levels of C-reactive protein (CRP) and pro-inflammatory cytokines, may be a driving factor for metabolic dysfunction and depression. A new publication by [Wu et al.](#) discusses the promising alternative of omega-3 fatty acids in addressing these conditions, especially since pharmacotherapy fails to adequately treat major depressive disorder in at least 30-40% of cases.

### Build your own *custom* Vitamin D test kit!

Choose from any of the following tests to add to your kit:  
Omega-3 Index, Omega Ratios, Mesitum, Essential & Toxic Minerals, hsCRP, HbA1c, TSH

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## Omega-3s Show Very Promising Effects

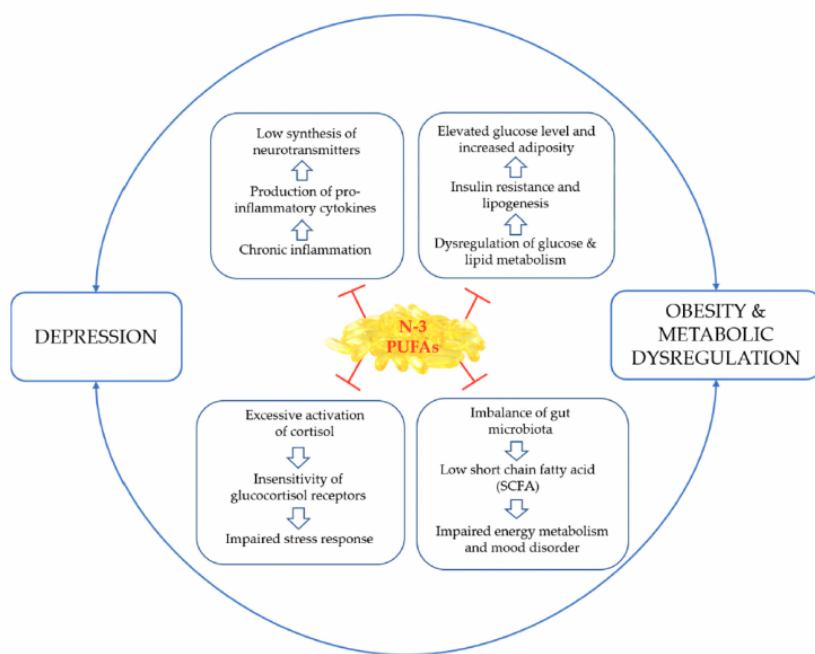
The world's largest review (called a meta-synthesis) of nutrient supplements and mental disorders published by [Firth et al. in 2019](#) examined 33 meta-analyses of randomized controlled trials on dietary supplements and mental health. The strongest evidence from this review showed the effect of omega-3s (with an average dose of 1422 mg/day of EPA) on reducing symptoms of major depressive disorder, which produced benefits beyond those of taking antidepressants alone. Low levels of omega-3 fatty acids DHA and EPA (as measured by the Omega-3 Index) are commonly found in individuals with depression, especially those who are not responsive to antidepressants.

According to Wu et al., there exists a “bidirectional relationship between depression and metabolic dysfunction, with each condition increasing the progressive risk of the other by 50–60%.” Chronic inflammation related to obesity has been linked to mood disorders as well as other cognitive diseases, heart disease, increased risk of cancers, decreased immune function, and more.

## How Do Omega-3s Affect Weight, Metabolism, and Mood?

Omega-3s have been shown to [reduce levels of inflammation](#) and help regulate metabolic dysfunction. Studies have also shown that omega-3s may help to improve body composition and weight, with increased omega-3s linked to reduced body weight, fat mass, and waist circumference.

The figure below illustrates the relationship between omega-3s (N-3 PUFAs) and inflammation, metabolism, mood disorders and stress.



*Wu et al., 2023*

When the body does not have enough omega-3 fatty acids, it can result in several different cascading effects that can then lead to obesity, metabolic dysregulation, and depression.

The authors stress the importance of personalized omega-3 dosing for individuals in order to achieve a potential therapeutic action in addressing depression, obesity, and metabolic dysregulation. Part of that personalized approach includes measuring the omega-3 status to determine an optimal dose, as well as monitoring levels of inflammation. This can be done through a combination of testing the Omega-3 Index, the AA:EPA Ratio, and levels of CRP.

Vitamin D and magnesium are also important for cognitive and metabolic health – be sure you are getting enough of each of these nutrients on a regular basis!



## BLOG TOPICS

AA:EPA Ratio

Asthma

Bone Health

Breast Cancer

C-reactive Protein (CRP)

Cadmium

Cancer

Children

Cold & Flu

Community Action

Copper

Coronavirus (COVID-19)

D for Health

Diabetes

Disease Prevention

Elements Panel

GrassrootsHealth Cohort Data

Heart Health

Hemoglobin A1c (HbA1c)

Immune Health

Inflammation

Lead

Magnesium

Mental Health

Mercury

Multiple Sclerosis

Nutrition & Supplements

## Getting Enough of the Right Nutrients to Support Metabolism and Mood

See if your nutrient status could improve to support better metabolism and mood. Create your custom home blood spot kit with the following measurements to help determine if you are getting enough of the following nutrients shown to benefit sleep:

- Vitamin D
- Omega-3 Index plus AA:EPA Ratio
- Magnesium
- hsCRP

[Enroll and test your levels today](#), learn what steps to take to improve your status of omega-3s, vitamin D and other nutrients and blood markers, and take action! By enrolling in the GrassrootsHealth projects, you are not only contributing valuable information to everyone, you are also gaining knowledge about how you could improve your own health through measuring and tracking your nutrient status, and educating yourself on how to improve it.

[Are You Getting Enough of These Nutrients? Check Now!](#)

## Why is it Important to Focus on Your Omega-3 Index vs Intake?

The [Omega-3 Index](#) is a blood test that measures the amount of EPA and DHA in red blood cell (RBC) membranes and is expressed as a percent of total RBC fatty acids. It is a long-term and stable marker of omega-3 status, and it reflects tissue levels of EPA+DHA.

**An Omega-3 Index of over 8% is associated with the lowest risk of death from heart disease and below 4% with the highest.**

While individual levels of omega-3s vary across the globe, most countries and regions have levels that are considered low to very low. Testing is essential, as there is a large amount of [variability in the omega-3 status](#) for different people with the same intake amount (similar to vitamin D!). For example, a GrassrootsHealth analysis showed that the range of response with 1000 mg of EPA+DHA per day was 5.7% to 10.2%. Therefore, it is recommended that individuals [measure their Omega-3 Index](#) and determine a personalized dose using the [Omega-3 calculator](#) to achieve a minimum Omega-3 Index of 8%.

## How Can You Use this Information for YOUR Health?

Having and maintaining healthy vitamin D and other nutrient levels can help improve your health now and for your future. **Measuring is the only way to make sure you are getting enough!**

**STEP 1** Order your at-home blood spot test kit to measure vitamin D and other nutrients of concern to you, such as omega-3s, magnesium, essential and toxic elements (zinc, copper, selenium, lead, cadmium, mercury); include hsCRP as a marker of inflammation or HbA1c for blood sugar health

**STEP 2** Answer the online questionnaire as part of the GrassrootsHealth study

**STEP 3** Using our educational materials and tools (such as our dose calculators), assess your results to determine if you are in your desired target range or if actions should be taken to get there



Omega-3

Omega-3 Index

Omega-6:Omega-3 Ratio

Pregnancy, Breastfeeding & Baby

Prostate Cancer

Research

Selenium

Skin Cancer

Special Programs

Stroke, Alzheimers & Dementia

Sun Exposure

Take Action Now

Testimonials

Testing

Thyroid Stimulating Hormone (TS

Vitamin D (25(OH)D)

Zinc

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**STEP 4** After 3-6 months of implementing your changes, re-test to see if you have achieved your target level(s)

**Enroll in D\*action and Build Your Custom Test Kit!**

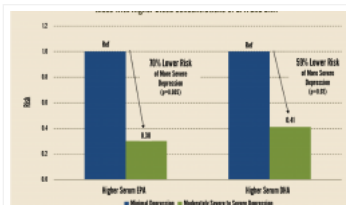
## You May Also Like



**DHA vs EPA – is there a difference in what to take and why?**



**Nutrients Shown to Improve Mental-Emotional Wellness**




**Higher Blood Levels of EPA and DHA Related to Lower Depression Scores**

reduce symptoms of major depressive disorder with benefits beyond those of taking antidepressants alone. Omega-3s (esp. EPA) may also improve clinical anxiety symptoms.  
Firth et al. (2019), Su et al. (2018)

**-80-90% of US Adults do not get enough Omega-3s**

**Vit D & Omega-3**  
in combination were found to be more effective than either one alone for improving depression, anxiety, stress, and quality of sleep  
Rajabi-Niazi et al. (2021)



**Could Your Mood Benefit from Improving Your Nutrient Levels?**

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## NEWSLETTER

### Newsletter Sign Up

Subscribe to the GrassrootsHealth newsletter to stay up to date with informative articles, special event notifications, discounts and much more.

## TOOLS

### D\*Calculator

Calculate your estimated additional D intake to reach your target vitamin D serum level. (40-60 ng/ml recommended by our scientist panel).

### Serum Level Converter

Convert blood serum level 25(OH)D Unit between ng/mL and nmol/L.

### Omega-3 Index Calculator

Calculate your estimated EPA+DHA (Fish Oil) intake to reach your target Omega-3 Index. (8-12% recommended).

## EVENTS

No events scheduled at this time