

PRESS RELEASE

ZINZINO

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ZINZINO AB (PUBL.): Test, don't guess! New study shows why measuring more than the omega-3 status matters, and highlights distinct results among Zinzino Balance Concept users

Global dietary data suggest that [billions of adults are not getting the daily recommended dose of omega-3 from fatty fish](#), yet in a crowded supplement market, simply taking omega-3 does not tell you where you stand. A new study based on 762,150 blood samples adds large-scale real-world evidence to the value of a test-based approach. People who reported following Zinzino's structured Balance Concept for at least 120 days showed higher omega-3 levels and a more balanced omega-6:3 ratio than both non-users and people taking omega-3 supplements on their own. The findings also show why a broader fatty acid profile matters: omega-3 levels alone do not tell the whole story.

Zinzino's Balance Concept is simple: take a fatty acid test to establish a baseline measure of your nutritional status before following a supplement routine with omega-3 intake tailored to your body weight. Every 120 days, take another test to track changes over time and evaluate the outcome with measurable data.

The omega-3 market is crowded with supplements making similar promises, but there are far fewer options for people who want to measure the effect. There's an important difference between simply taking an omega-3 supplement and following a structured, test-based approach such as Zinzino's Balance Concept. In a saturated category, [this study adds meaningful real-world evidence to that distinction](#), and underscores an equally simple point: omega-3 supplementation alone doesn't tell you where you stand.

Measurement does. Zinzino's BalanceOil sits within a test-based system designed around a fatty acid test to measure your baseline fatty acid profile, tailor your intake, and track changes over time.

A fatty acid test measures different fatty acids in the blood and presents the results as a set of biomarkers. The omega-6:3 ratio shows the balance between these two fatty acids (AA/EPA), while the Omega-3 index ^{WB} measures EPA and DHA levels in whole blood.

The study showed that the Omega-3 index ^{WB} alone doesn't tell the whole story. Even with a comparable omega-3 index, the groups could still have very different omega-6:3 ratio results, highlighting the value of looking at a broader fatty-acid profile rather than relying on a single number. People who reported using the Balance Concept for at least 120 days had a higher Omega-3 index ^{WB}, lower omega-6:3 ratio and a tighter spread of omega-6:3 results than both non-users and the group of people who had chosen their own omega-3 supplements.

Zinzino's structured Balance Concept program included supplementing with BalanceOil; a full-spectrum fish oil and extra-virgin olive oil formulation, getting weight-based dosage recommendations, and optional nutritional lifestyle guidance based on the test results.

The study cannot separate the effect of BalanceOil from the rest of the Balance Concept. But it does show that the group using BalanceOil as part of Zinzino's Balance Concept had a distinctly different measured fatty-acid profile, **and the paper identifies the formulation as one possible and potentially important part of the explanation.**

Three different supplementation patterns – three different profiles

The researchers analyzed dried blood spot samples collected between 2012 and 2023. Based on questionnaire responses, samples were divided into three groups:

1. No long-term use of omega-3 supplements
2. Taking non-specified omega-3 supplements for at least 120 days
3. Staying on Zinzino's Balance concept for at least 120 days

All samples were analyzed using the same whole-blood fatty-acid method. After adjusting for differences in age, sex, body mass index, and geographic region, the differences were substantial:

- Balance concept group showed 70% higher levels of omega-3 than non-users
- Balance concept group showed 69% lower omega-6:3 balance than non-users

Among the individual fatty acids measured, EPA differed the most between the groups, **while the omega-6:3 ratio (AA/EPA) also showed particularly large differences.** The self-supplemented group generally fell between the other two groups, but showed a wide spread of results within the group. The Balance Concept group showed a more concentrated range of omega-6:3 values and less variation between regions.

The omega-3 number doesn't tell the whole story

One of the most interesting findings emerged when researchers compared samples with similar Omega-3 index ^{WB}, their omega-6:3 ratio could still be very different.

For example, at an omega-3 level of around 4%, the group taking non-specified omega-3 had about 17% lower omega-6:3 ratio than non-users, while the Balance concept group had about 47% lower ratio.

This means that the Omega-3 index ^{WB} (EPA+DHA levels) and omega-6:3 ratios (AA/EPA values) provide different but complementary information about a person's fatty-acid profile. Looking only at their EPA and DHA levels would therefore have missed some of the differences between the groups.

"The findings suggest that real-world omega-3 supplementation should not be understood simply as supplement use versus non-use. Considering both measures provides a more differentiated description of fatty-acid biomarker patterns than measuring EPA+DHA alone," Emmalee Gisslevik, PhD, first author of the study and Senior Research and Development Specialist at Zinzino.

A lower omega-6:3 ratio should not be interpreted to mean that lower levels of arachidonic acid, or AA, are inherently desirable. AA is an important fatty acid in its own right. The value of the ratio lies in interpreting it alongside the individual fatty acids that contribute to it.

What the findings mean for test-based nutrition

The results of the study illustrate the importance of looking at the Omega-3 index ^{WB} and the omega-6:3 ratio together to get a more complete understanding of your personal fatty acid profile, where you stand and why.

"This study reinforces exactly why we say: test, don't guess, says Dag Bergheim Pettersen, CEO at Zinzino.

"Supplementing your diet is a step toward healthier living, but you can't simply assume it will have the intended effect. Everybody's different, and you need measurable data to see how your body responds. These large-scale findings show the real value of test-based nutrition: understanding what our nutritional status says about who we are and how we live."

The Balance Concept provides a defined framework combining BalanceOil supplementation, weight-based dosage recommendations, and optional nutrition and lifestyle guidance. The study cannot determine which individual part of that framework contributed to the observed biomarker pattern. What it does show is how different real-world supplementation contexts were reflected at the biomarker level. Self-directed omega-3 supplementation was associated with an intermediate but highly variable profile, while samples from the structured Balance Concept group showed higher Omega-3 index ^{WB}, lower omega-6:3 ratios and a more concentrated distribution of omega-6:3 results.

That distinction reinforces the rationale behind a test-based approach: measure first, use the results to inform what comes next, and measure again – rather than assuming that supplement use alone tells you what you need to know.

Why the size of the study matters

With more than 762,000 samples, researchers could look beyond group averages and examine how widely results varied across geographic regions. The analyses accounted for age, sex and body mass index, and additional analyses were conducted to test the robustness of the findings without materially changing the main results.

The dataset also showed less regional variation in omega-6:3 ratios within the Balance Concept group than in the other two groups. Geographic differences nevertheless remained, and other unmeasured factors may have contributed. This reinforces that the findings describe real-world associations rather than effects demonstrated in a controlled intervention.

The scale of the study also made it possible to identify patterns that could be missed by looking only at average omega-3 levels or simply asking whether someone takes a supplement.

Important context

The study was observational and cross-sectional, comparing existing groups based on self-reported supplement use rather than researcher-assigned interventions. Because the database was anonymous, samples could not be linked to verified unique individuals or used to assess changes within the same person over time.

The findings therefore cannot determine which specific aspects of the Balance Concept may have contributed to the observed patterns, nor can they establish clinical health outcomes or compare the performance of individual omega-3 products.

The purpose of the study was to characterize differences in whole-blood fatty acid profiles across real-world supplementation contexts.

About the study

Real-world omega-3 supplementation patterns and whole-blood fatty-acid biomarkers: a cross-sectional analysis of 762,150 dried blood spot samples is a retrospective cross-sectional analysis of whole-blood samples collected from August 2012 to September 2023.

The study builds on an earlier [analysis of the same global BalanceTest database, published in 2025](#), examining geographic and demographic variation in whole-blood fatty acid status.

Understanding the markers

EPA: Eicosapentaenoic acid (EPA) is a long-chain omega-3 fatty acid found mainly in oily fish, seafood and marine omega-3 supplements. In this study, EPA was the individual fatty acid that differed most between the supplementation groups.

DHA: Docosahexaenoic acid (DHA) is another important long-chain omega-3 fatty acid found mainly in oily fish and marine oils.

AA: Arachidonic acid (AA) is a long-chain omega-6 fatty acid and a normal, important component of the body.

What does the omega-3 index actually measure?

The Omega-3 index ^{WB} measures the combined level of two key omega-3 fatty acids in whole blood: EPA and DHA. It gives an indication of your omega-3 status by showing how much of these fatty acids are present in relation to the other fatty acids measured.

What does the omega-6:3 balance actually measure?

The omega-6:3 ratio shows the balance between the two essential fats in your blood. It compares the amount of the omega-6 fatty acid arachidonic acid (AA) with the omega-3 fatty acid EPA. An AA/EPA result of 5, for example, means that the measured amount of AA is approximately five times the measured amount of EPA.

Why measure both the omega-3 index and omega-6:3 ratio?

Because they tell us different things. Two people can have the same Omega-3 index ^{WB} (EPA+DHA levels) but quite different omega-6:3 ratios (AA/EPA values). The omega-6:3 ratio shows the balance between these fatty acids in your blood, while the Omega-3 index ^{WB} shows how much EPA and DHA you have. Together, they provide a more complete picture of your fatty acid profile and whether you are getting enough key omega-3s to support that balance.

How can fatty acids be measured in blood?

Plasma or serum measurements are influenced relatively quickly by recent food intake and can therefore reflect more recent dietary exposure. Red blood cells measurements deal with fatty acids incorporated into red blood cell membranes and they generally reflect intake over a longer period. Whole blood measures both the liquid portion of the blood and blood cells, providing a combined fatty-acid profile. The BalanceTest uses a dried blood spot, where a small drop of whole blood is collected on filter paper and analyzed for its fatty-acid composition.

For more information:

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Zinzino is a global health tech company from Scandinavia, pioneering a new standard in personal health through advanced home health tests and scientifically proven nutritional supplements. Listed on the Nasdaq First North Premier Growth Market, the company's test-based, personalized nutrition strategy empowers individuals to take charge of their long-term health with science-based insights and targeted solutions. Its third-party validated products are available through direct sales distributors in more than 100 markets worldwide. Zinzino's headquarters are located in Gothenburg, Sweden, with additional offices across Europe, Asia, and Australia.