

## RESEARCHERS UNCOVER NOVEL ROLE FOR CHOLINE IN IMPROVING DHA STATUS DURING PREGNANCY

*A new research study shows that boosting maternal intake of choline, an essential brain nutrient, significantly increases DHA status even when no additional DHA is consumed.*

New Hampton, NY, (May 18, 2022) – A paper<sup>1</sup> just published in *The American Journal of Clinical Nutrition (AJCN)* highlights the unique role choline plays in substantially increasing docosahexaenoic acid (DHA) status during pregnancy. The new randomized controlled trial, conducted by Kevin Klatt and a team of researchers at Cornell University, sought to determine the impact of choline supplementation on DHA status during pregnancy. DHA is an Omega-3 fatty acid which accumulates primarily in the brain and retina<sup>2</sup>, making it a critical nutrient during infant development and throughout the lifespan. These new findings follow groundbreaking clinical research published earlier this year which demonstrated significant and enduring cognitive benefits to children born of mothers who consumed double the amount of choline during pregnancy.<sup>3</sup>

VitaCholine<sup>®</sup> from Balchem was the choline used in both Cornell research trials. The findings are particularly consequential because this is the first time that researchers have demonstrated a significant elevation in DHA status *driven solely* by increasing maternal choline intake. According to Tom Druke, Marketing Director of VitaCholine, “Choline and DHA work together to support baby’s brain development, and that’s why we’re excited to see this new data showing that a combination of VitaCholine and DHA results in superior DHA status in expectant mothers – far better than supplementing with DHA alone.”

Pregnant women entering their 2<sup>nd</sup> trimester were recruited for this trial. All participants were given 200 mg/day DHA, and in addition they were randomized to receive either 25 mg/day or 550 mg/day of supplemental VitaCholine. Blood draws were taken regularly until baby arrived and assessed for markers of DHA status in the blood.

Choline requirements are relatively higher during pregnancy, and adequate intake of choline during pregnancy helps support the growth and development of the child’s brain and spinal cord.<sup>4</sup> As a fundamental building block of phosphatidylcholine (PC), choline aids in the transport of lipids such as DHA to various tissues around the body. In pregnant women, this includes the placenta. Due to the synergistic interaction between choline and DHA, supplementing with both nutrients helps deliver more of this critical Omega-3 fatty acid for development of the brain and eyes. Furthermore, the Cornell team believes that it is possible “*that existing clinical trials of prenatal DHA supplementation likely achieved non-maximal status, resulting from a limited methyl donor supply*”

Choline science is growing by leaps and bounds says Shitij Chabba, Vice President of Minerals & Nutrients and Human Nutrition & Health Marketing at Balchem. “Earlier we saw the positive impact of higher maternal VitaCholine intakes on cognitive processing speeds during infancy and the subsequent improvements to focus and sustained attention in the same kids at the age of seven. Now, this new research highlights a dual role for choline early in life – boosting cognitive performance *and* increasing DHA uptake to support growing brains. This powerful pairing is critical to enhancing brain development in both the short and long-term,” says Chabba.

Leading authorities and manufacturers alike are taking note of the new and impactful science. “We are actively helping to drive the science forward through fellowships, grants and other means of support,” says Druke. “The American Medical Association, the American Academy of Pediatrics and the 2020-2025 Dietary Guidelines for Americans have all highlighted the importance of choline during pregnancy and throughout early childhood in supporting neurological development. Unfortunately, fewer than 10% of women of childbearing age in the United States are getting even the recommended amount of choline in their diets.<sup>5</sup> These most recent data provide yet another compelling piece of evidence, demonstrating choline’s importance for expecting mothers and their children.”

#### Cited Sources:

<sup>1</sup>Klatt K et al, AJCN, <https://doi.org/10.1093/ajcn/nqac147>

<sup>2</sup>Arterburn LM et al, AJCN, <https://doi.org/10.1093/ajcn/83.6.1467S>

<sup>3</sup>Bahnfleth CL et al, FASEB, <https://doi.org/10.1096/fj.202101217R>

<sup>4</sup>[Dietary Guidelines for Americans, 2020-2025, Chapter 5, Page 117](#)

<sup>5</sup>Wallace, TC, & Fulgoni, VL, (2017). Nutrients, 9(8), 839. <https://doi.org/10.3390/nu9080839>

#### About Balchem

Balchem Corporation develops, manufactures and markets specialty ingredients that improve and enhance the health and well-being of life on the planet, providing state-of-the-art solutions and the finest quality products for a range of industries worldwide. The company reports three business segments: Human Nutrition & Health; Animal Nutrition & Health; and Specialty Products.

The Human Nutrition & Health segment delivers customized food and beverage ingredient systems, as well as key nutrients into a variety of applications across the food, supplement and pharmaceutical industries. The Animal Nutrition & Health segment manufactures and supplies products to numerous animal health markets. Through Specialty Products, Balchem provides specialty-packaged chemicals and chelated minerals to the micronutrient agricultural market.

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