



Nutrition For A **Healthy** **Pregnancy**

 VitaCholine®

 balchem®
HUMAN NUTRITION & HEALTH



Choline plays a role in your fetus's brain development. Experts recommend that pregnant women get 450 mg of choline each day.

American College of Obstetrics and Gynecology (ACOG)⁽¹⁾



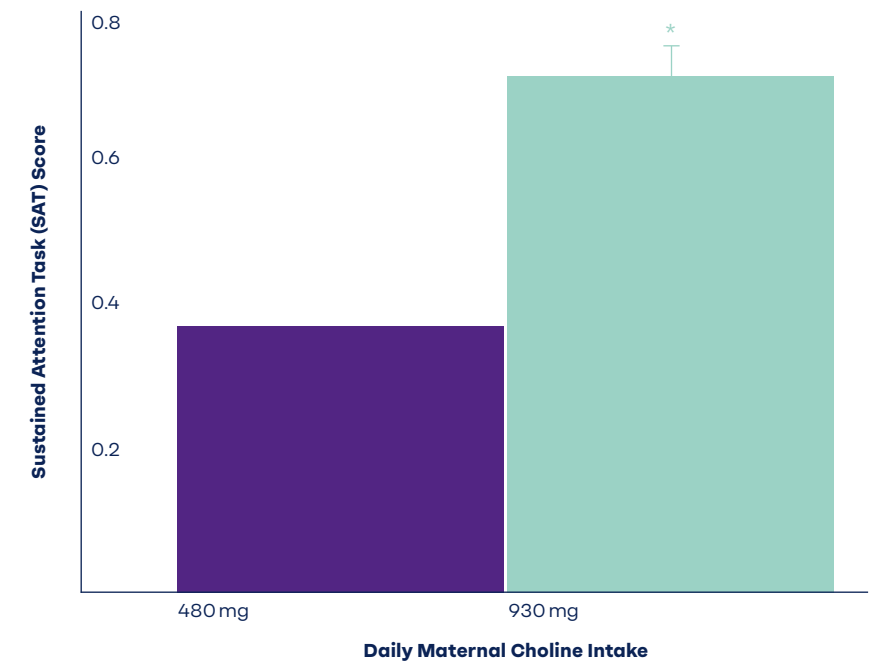
How Choline & DHA Work Together

Two nutrients with well established roles in fetal growth and development are the essential nutrient choline and the omega-3 fatty acid, docosahexaenoic acid (DHA).

Each nutrient individually helps support a healthy pregnancy but new data suggests beneficial synergies as well.

Nutrition For A Healthy Pregnancy.
For Healthcare Professionals Only

Children Born to High Choline Consuming Mothers Showed Greater Sustained Attention When Followed Up at Age 7y



Mean ± SEM; *Significant main effect of choline treatment, p<0.05; Adapted From⁽⁶⁾

Choline

Choline is an essential nutrient that supports the growth and development of the child's brain and spinal cord.^(2,3) Recent research highlights some of the benefits that adequate or supplemental choline can provide both mom and baby:

Supports Cognitive Development
Choline aids in the development of multiple aspects of cognitive function, including learning, memory, and attention.⁽⁴⁾

Enhances Baby's Neurocognitive Ability
Children born to mothers who consume supplemental choline (930 mg/ day) during the 3rd trimester of pregnancy have been shown to have improvements in information processing speed as early as 4-13 months of age.⁽⁵⁾

Cognitive Benefits That Last:
A follow up study of those same children at age 7 showed that choline supplementation during pregnancy improved children's sustained attention & cognitive function - 7 years later!⁽⁶⁾

Docosahexaenoic Acid (DHA)

Docosahexaenoic Acid (DHA) is one of three major omega-3 fatty acids of importance in human nutrition. DHA is primarily accumulated in the brain and retina,⁽⁷⁾ where it plays important roles:

Critical for Brain Development

An adequate supply of DHA is critical for brain development of infants and children.⁽¹⁾

Supporting Brain Function

DHA has been shown to impact multiple aspects of brain development and function, such as modulating neurogenesis, influencing neurotransmission, and promoting synaptic activity.⁽⁶⁾

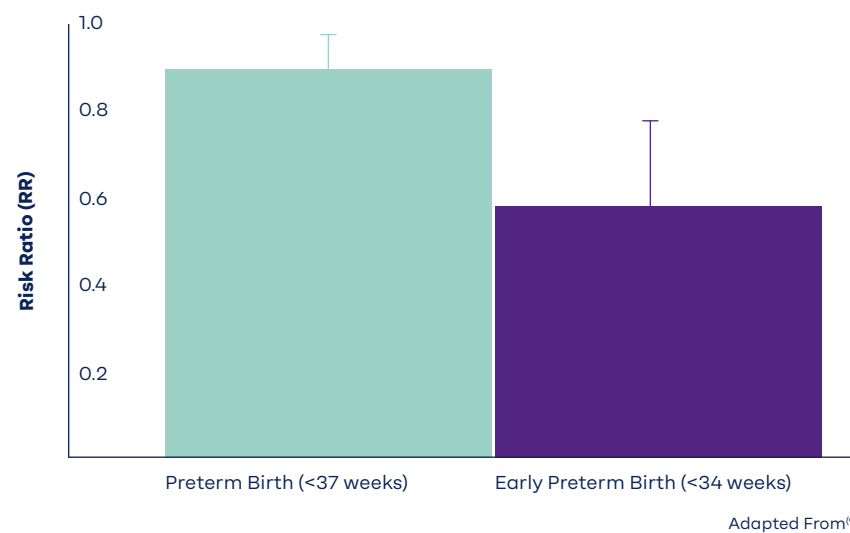
Reducing Preterm Birth

High intakes of foods containing omega-3 fatty acids such as DHA have been linked to longer ges-

tations and improved perinatal outcomes. A recent systematic review and meta-analysis from the Cochrane Library concluded that increasing omega-3 fatty acid intake (including DHA) may reduce the incidence of preterm birth (<37 wks) and early preterm birth (<34 wks).⁽⁹⁾

Experts generally recommend that expecting moms consume at least 200 mg/day of DHA to support a healthy pregnancy, but more than 95% of pregnant women do not get enough DHA in their diets.⁽¹⁰⁾

Preterm Birth (<37 wks) and Early Preterm Birth (<34 wks) Were Reduced in Women Receiving Omega-3 Fatty Acids Compared With No Omega-3



Daily DHA Intake Recommendation, Expert Groups

200-300 mg

American Academy of Pediatrics (AAP)⁽¹¹⁾

100-200 mg

European Food Safety Authority (EFSA)⁽¹²⁾

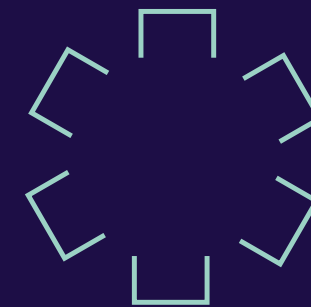
200 mg

Food & Agriculture Organization of the United Nations (FAO) World Health Organization (WHO) Joint Expert Consultation⁽¹³⁾

300 mg

Global Organization for EPA and DHA Omega-3 (GOED)⁽¹⁴⁾

Choline and DHA share an important metabolic relationship highlighted by new clinical data in expecting mothers



Phosphatidylcholine, a choline derivative, helps transport various lipids around the body, including DHA(8) and higher maternal choline intake helps improve DHA uptake.

Choline + Docosahexaenoic Acid (DHA)

Choline improves markers of DHA status

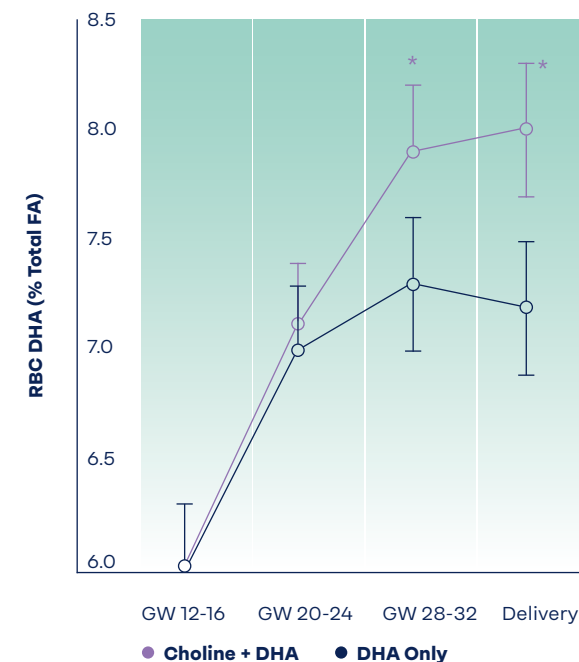
Pregnant women given supplemental choline + DHA during the 2nd and 3rd trimesters of pregnancy increased their DHA status more than women given DHA alone.⁽¹⁵⁾

Adequate maternal DHA status during pregnancy is critical to ensure proper supply of nutrients to baby.

The Institute of Medicine recommends that women consume 450 mg/day of choline and during pregnancy 550 mg/day during lactation,⁽²⁾ yet less than 5% of women in the United States meet those recommendations from food and beverages alone.⁽¹⁶⁾

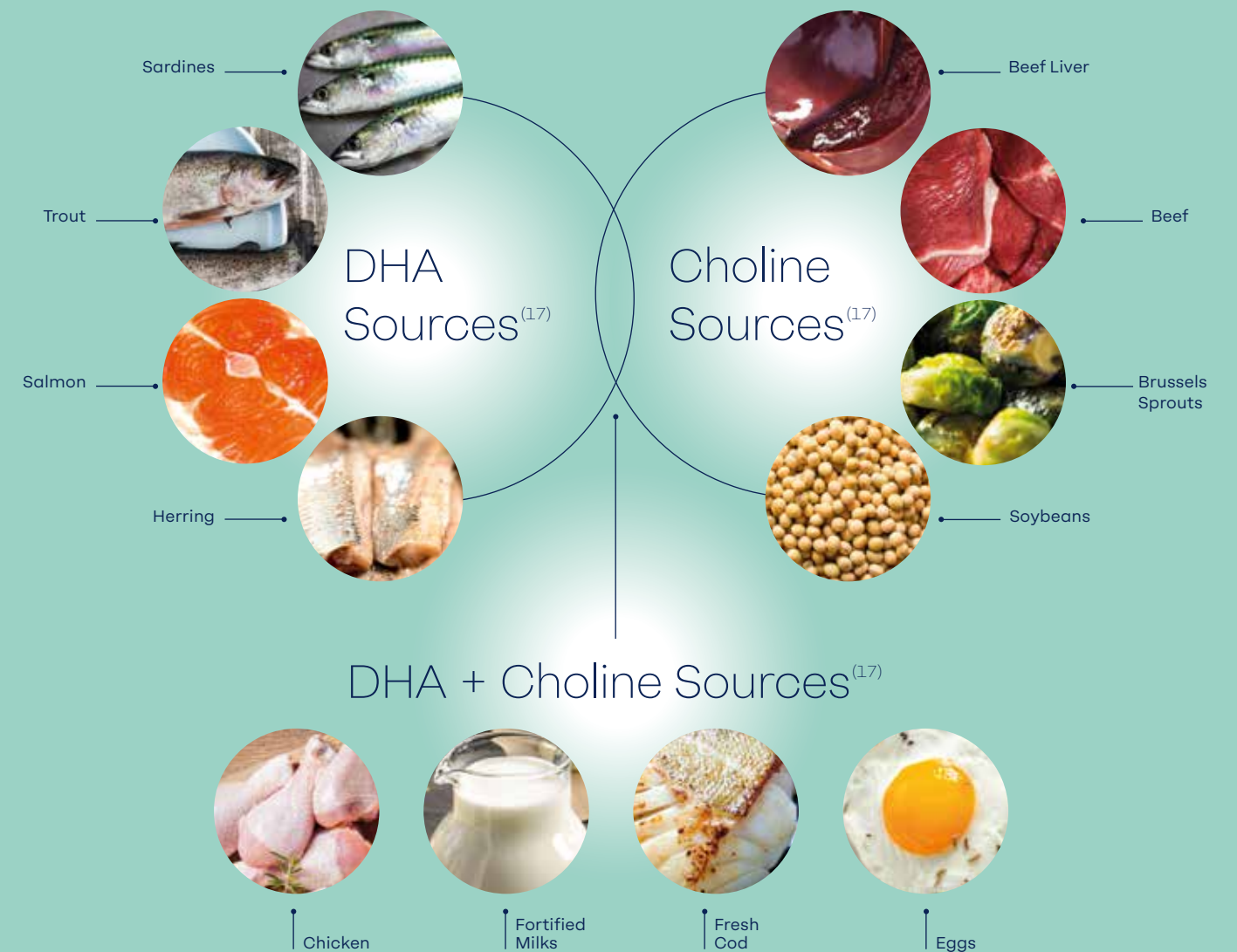
Encourage your patients to get enough choline and DHA in their diets to help support a healthy pregnancy.

Maternal DHA Choline + DHA Supplementation Improves DHA Status Better Than DHA Alone



Mean ± 95% CI; *Significant difference between groups, p<0.05; GW = gestational week; RBC = red blood cell; FA = fatty acid; Adapted from⁽¹⁵⁾

Sources of DHA and Choline



In addition to choline-containing foods, daily choline and DHA supplements may be needed to meet your needs

For more research and materials on choline's role in health, visit:
www.vitacholine.com

References:

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- (17) USDA, Agricultural Research Service. FoodData Central, 2019. Available at: <https://fdc.nal.usda.gov/>

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