PRACTICE TOOL

DHA Supplementation for Lactating Mothers of Preterm Infants

Introduction

- In 2020, preterm birth affected 1 of every 10 infants born in the United States. Racial and ethnic differences in preterm birth rates occur. The rate of preterm birth among African American women (14.4%) was about 50 percent higher than the rate of preterm birth among white or Hispanic women (9.1% and 9.8% respectively).[1]
- A developing baby goes through important growth throughout pregnancy—including in the final months and weeks. For example, the brain, lungs, and liver need the final weeks of pregnancy to fully develop. Babies born too early (especially before 32 weeks) have higher rates of death and disability. In 2019, preterm birth and low birth weight accounted for about 17% of infant deaths (deaths before 1 year of age). Babies who survive may have problems with breathing, feeding, vision and hearing, and may have cerebral palsy, and developmental delays.[1]
- Preterm infants also have a higher risk of developing infection due to an immature immune system and have a sustained inflammatory state.
- The first 1000 days of an infant's life from conception to 2 years are crucial for growth and subsequent development.[2]

Human Breast Milk (HBM)

- Human breast milk is preferred if it is available.
- HBM contains anti-inflammatory components that can reduce risk of morbidity and mortality.
- One of these components is the long-chain omega-3 polyunsaturated fatty acid, DHA (docosahexaenoic acid).[3,4]
- Mothers' intake of DHA from the diet or as a supplement is critical not only during pregnancy but is especially important during lactation. Breastmilk DHA content is reflective of maternal intake.[5]
- Enteral DHA in preterm infants can reduce severe Retinopathy of Prematurity, for example.
- DHA and ARA (arachidonic acid) must be in the correct ratio and for this reason, it is recommended that lactating mothers receive supplemental DHA.[6]
- Supplemental DHA recommendations are from 200 mg/day to 1000 mg/day.[6]

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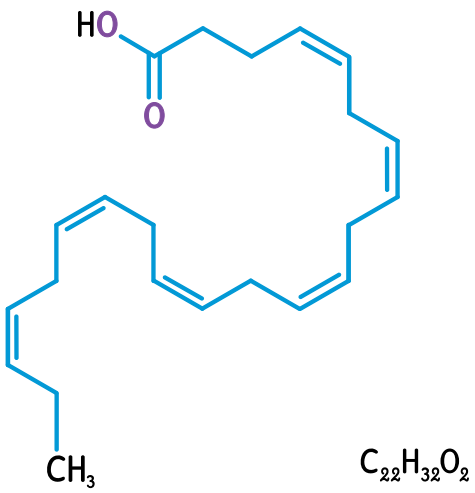
DHA Supplementation

- Supplemental DHA of 1000 mg/day has been shown to decrease infant markers of inflammation and thus decrease inflammation in the infant.[4]
- This higher dose of DHA during pregnancy may reduce the risk of preterm birth.[7]
- DHA is available through supplementation and is available in foods such as salmon, trout, mackerel, tuna, and eggs.
- Intake of 1000 mg/day of DHA may not be achievable even if these foods are consumed so mothers may need supplementation.
- Human milk supplementation by DHA containing fortifiers may be necessary as well for the preterm infant.

Docosahexaenoic Acid



Practical Applications

- Mother's Own Milk (MOM) is the best feeding choice for preterm infants.[8]
- Preterm infants have high nutrient demands that cannot be met with human milk alone.[8]
- Women providing breast milk for preterm infants may not consume dietary reference intakes for key nutrients.[9]
- The nutrition support team can have a unique role in maternal dietary education to impact human milk nutrient delivery to the infant.[9]
- Supplementation for mothers and infants should be considered if food source not adequate.

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