

Increasing Omega-3 DHA Intake to Reduce Preterm Birth

Susan E. Carlson, PhD
AJ Rice Professor of Nutrition
University Distinguished Professor
University of Kansas Medical Center
Kansas City, Kansas (USA)

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Conflict of Interest Statement

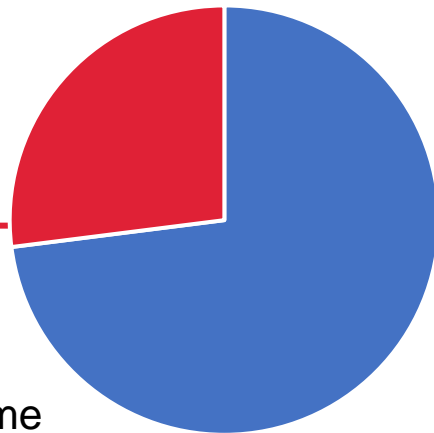
- I am providing this presentation as a nutrition scientist who works for the **University of Kansas Medical Center** rather than as an industry consultant.
- The research I'll present was **funded by the National Institutes of Health** (NICHD R01HD083292 and R01HD086001) and the Office of Dietary Supplements.
- I have previously received honorariums from scientific organizations for presentations on **Omega-3 DHA** in infancy and pregnancy

Omega-3 DHA is a nutrient

- DHA found in few food sources
- Intake is low in those who do not consume seafood or take a supplement
- DHA is well known for heart & brain health, and has long been supplemented into infant formula

At least **200mg DHA** Recommended During Pregnancy**

Usual Intake Among Pregnant Women



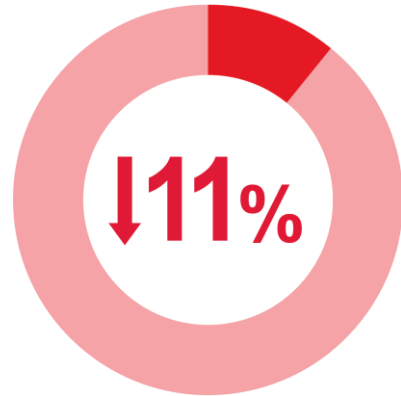
*Women Only Consume ~54mg

Food	DHA (mg)
3 oz pink salmon	638
3 oz white tuna	535
3 oz crab	196
12 large shrimp	96
3 oz tuna salad	47
2 pieces chicken	37
1 large egg	19-50

USDA, ARS 2003; USDA Nutrient Database for Standard Reference. Release 16.

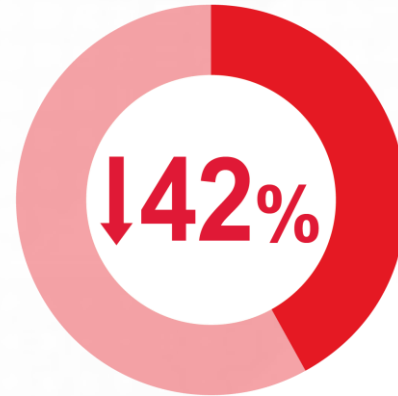
Omega-3 DHA supplementation during pregnancy reduces preterm and early preterm birth

Preterm Birth <37 weeks:
10,304 participants



High quality evidence for an **11% reduction**

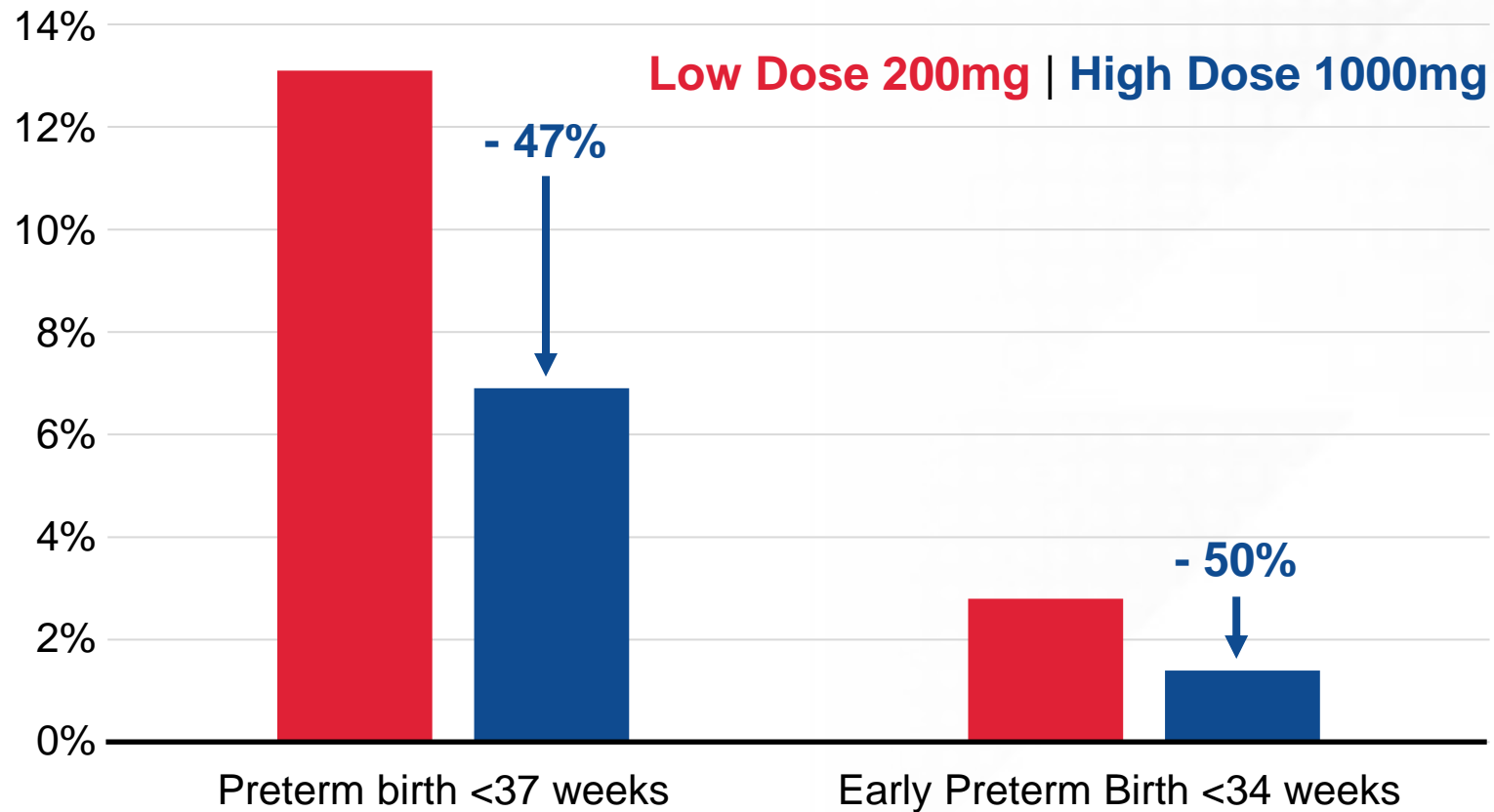
Early Preterm birth <34 weeks:
5,204 participants



High quality evidence for a **42% reduction**

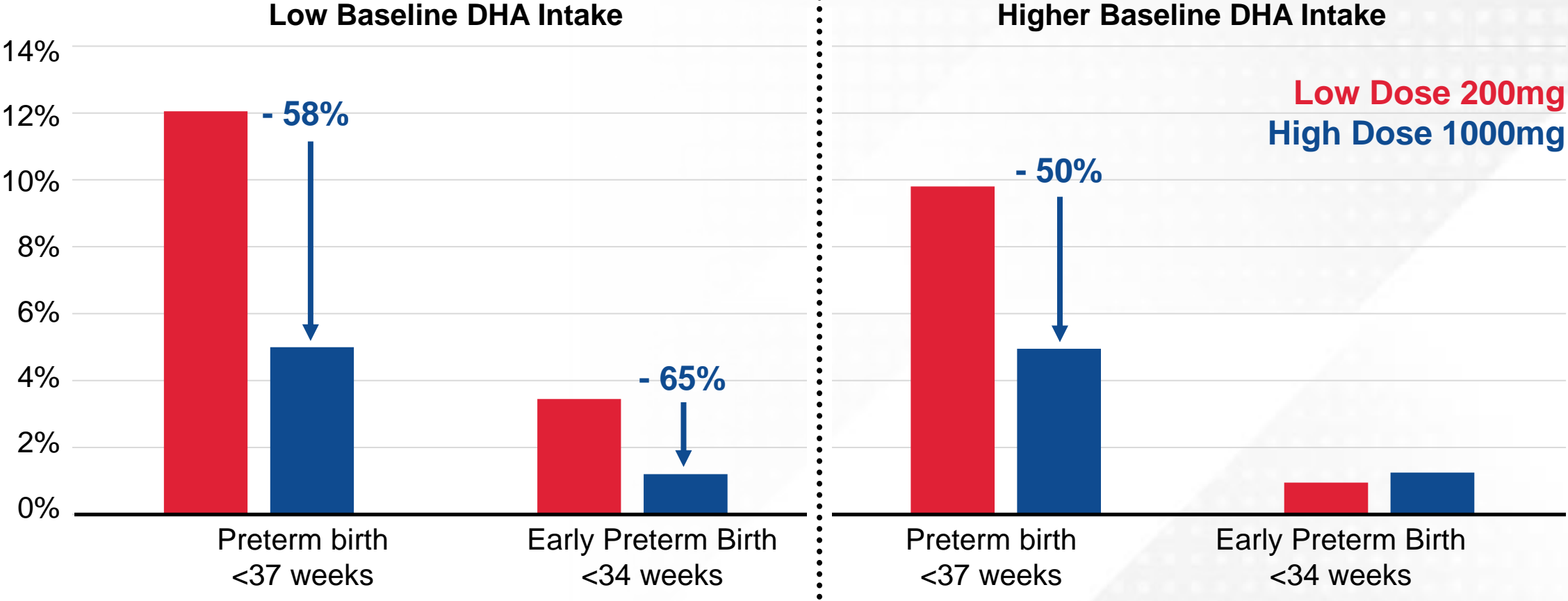
High quality evidence in a Cochrane Review means no further research trials are necessary to show causality

High dose supplemental DHA reduced preterm birth <37 weeks and <34 weeks



4 Carlson et al., (2023) Early and late preterm birth rates in participants adherent to randomly assigned high dose docosahexaenoic acid (DHA) supplementation in pregnancy. Clinical Nutrition 42: 235-243.

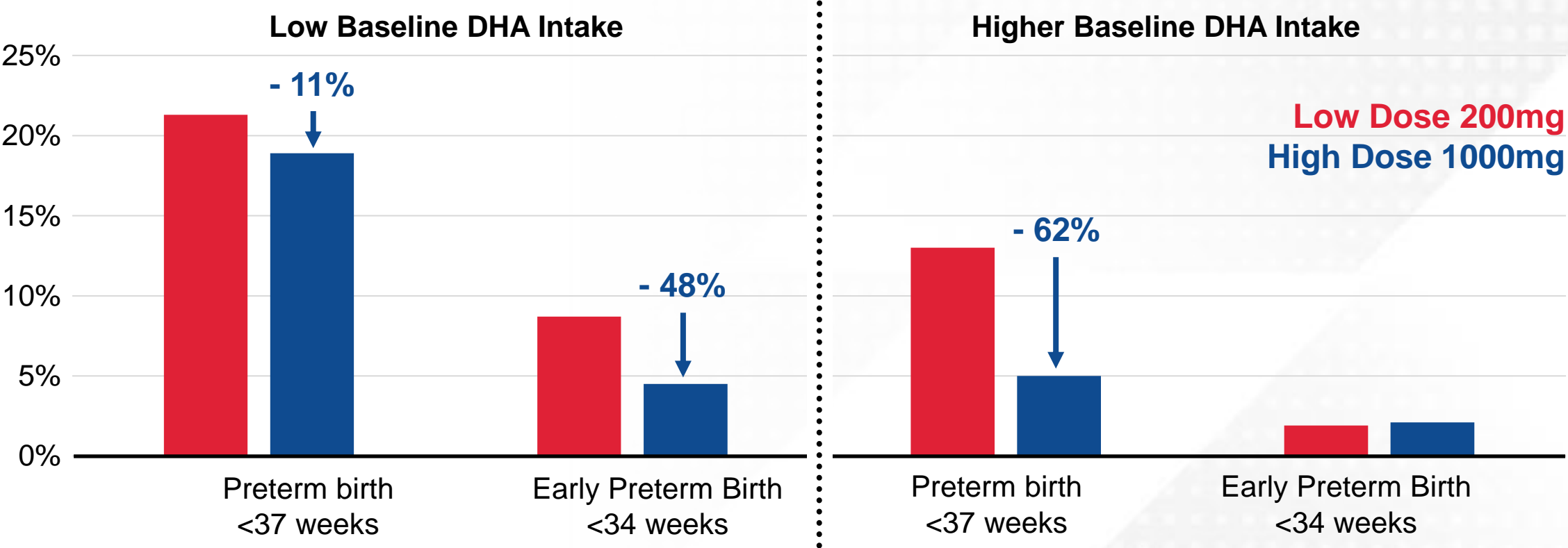
Women with low baseline DHA Intake need a higher dose



5 Carlson et al., (2023) Early and late preterm birth rates in participants adherent to randomly assigned high dose docosahexaenoic acid (DHA) supplementation in pregnancy. Clinical Nutrition 42: 235-243.



Higher dose DHA reduced preterm birth <37 weeks in Black women regardless of baseline intake.
However, higher baseline intake led to very low rates of birth <34 weeks



6 From DeFranco et al., Racial disparity in efficacy of DHA supplementation for prevention of preterm birth: secondary analysis from a randomized, double-blind trial (submitted).




Key Findings

- In general, omega-3 DHA intake is low in US pregnant women.
- High dose DHA supplementation is safe and reduces both preterm birth <34 weeks and <37 weeks.
- High dose DHA supplementation benefits women with lower DHA intake most.
- A combination of high baseline intake and high dose DHA supplementation was especially important for reducing birth <34 and <37 weeks in Black women.

Conclusion:

- Improving DHA intake of all US women in their childbearing years would likely reduce preterm and early preterm births.
- Based on our results it appears that much of the racial discrepancy in PTB could be eliminated by improving the DHA intake of Black moms before and during pregnancy.

An aerial photograph of the University of Kansas campus, featuring various academic buildings, a prominent clock tower, and green spaces. The entire image is overlaid with a semi-transparent blue filter.

Is it time for policies to ensure that all women in their childbearing years, especially those who become pregnant, have access to appropriate levels of DHA supplementation?