

Interview with
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Why is there extra demand for choline during pregnancy?

“The demand for choline during human pregnancy is high because large amounts are required for cell division and tissue expansion. Recent findings from my laboratory suggest that supplementing the maternal diet with extra choline (i.e, 550 mg choline/d) may improve maternal and child health outcomes by: (i) enhancing placenta function (Jiang et al. 2013); and (ii) easing babies response to stress (Jiang et al. 2013).”

What level of awareness exists about choline?

“Choline is often referred to as the unknown essential nutrient as few people, even health professionals, know about it.”

Why?

“Dietary recommendations for choline were not established until 1998 as compared to the early 1940s for the other nutrients. In addition, only recently has choline been featured in nutrition textbooks and included in the curriculum for nutrition majors.”

What level of awareness exists about folate, iodine and other important nutrients in pregnancy?

“Almost all (if not all) health professionals and most young women know of the importance of folate during pregnancy (West 2012). I think less would know about iodine (at least in the US).”

Around 90% of us aren't getting our recommended intake – why?

“Many people restrict their consumption of the foods that are rich sources of choline including egg yolks and meat. It is also possible that the recommended intake level exceeds requirements but this does not appear to be the case for adult men (Veenema et al. 2009) or pregnant women (Yan et al. 2012). Notably, even consumption of 2x the choline adequate intake level by third trimester pregnant did not increase the urinary excretion of this water-soluble nutrient (Yan et al. 2012).”

Why do pregnant and breastfeeding mothers have higher nutritional requirements?

“Choline is needed for cellular division, tissue expansion, lipoprotein synthesis and one-carbon metabolism; all of which are accelerated in pregnancy. In addition, large amounts of choline are present in human milk thereby increasing the choline requirement among lactating women.”

What effect can there be on the mother if she's not getting enough choline in pregnancy and breastfeeding?

"We recently showed that a higher maternal choline intake attenuated the production of a protein that contributes to preeclampsia (Jiang et al. 2013). Thus, mothers not consuming enough choline during pregnancy may be at greater risk of placental dysfunction. Fatty liver may also develop in pregnant or lactating women who do not consume sufficient levels of choline because of choline's role in lipoprotein synthesis and fat removal from liver."

How can we help women improve their choline intake and general nutrition?

"A healthy mix of plant and animal foods would boost choline intake during pregnancy and lactation. Vegetarian women, or those that limit animal product consumption, would likely benefit from taking a choline-containing supplement."

Are there any tips for encouraging customers to start taking these supplements before conception?

"Like folate, choline appears to be important in the closure of the neural tube which occurs during the first 8 weeks of pregnancy. Thus, ensuring an adequate intake of choline during this period is important. Supplementing the maternal diet with choline containing supplements that provide up to 450-550 mg choline/d seems like a reasonable strategy to achieve this aim."