Biography

Dr. Kyly Whitfield is Assistant Professor in the Department of Applied Human Nutrition at Mount Saint Vincent University in Halifax, Canada. She leads the Milk and Micronutrient Assessment (MAMA) Lab, which aims to explore several facets of maternal and infant feeding and nutrition (www.mamalab.ca). She is passionate about nutrition in the first 1,000 days, from conception to two years; she co-edited *The Biology of the First 1,000 Days*. A major focus of her research program is identifying culturally appropriate public health interventions to combat micronutrient deficiencies in low-resource settings, which currently includes the exploration of salt fortification to address thiamine deficiency among breastfed infants in Southeast Asia. Her previous work explored fish sauce as a fortification vehicle in Cambodia. Another focus is studying infant feeding behaviors, and the potential long-term effects of early feeding on eating patterns and disease risk later in life. She was awarded the inaugural Mount Saint Vincent University Early Career Research Award this year.

Abstract

Thiamine (vitamin B₁) deficiency remains an under-studied public health issue which was recently being called the forgotten disease of Asia, despite reports of deficiency throughout Cambodia, Myanmar, Laos, and other countries. In infants, thiamine deficiency causes infantile beriberi, which without treatment can lead to mortality within hours of clinical presentation. Recent evidence also suggests that even sub-clinical thiamine deficiency in early life has a negative effect on cognitive development and functioning. Riboflavin (vitamin B₂) is also another concern where there is evidence of low riboflavin status in Cambodia and Malaysia which is problematic given its role in anemia. Both thiamine and riboflavin deficiencies are common in regions where (B-vitamin poor) white, polished rice is the dietary staple. Women with poor dietary thiamine and riboflavin intake produce milk low in these vitamins, putting their exclusively breastfed infants at a high risk of deficiency. This presentation will review the biology and deficiency symptoms of thiamine and riboflavin, and provide recent epidemiological data on status throughout Southeast Asia. We will also review recent (and ongoing) thiamine fortification efforts in Cambodia with fish sauce and salt.