Meeting macro- and micronutrient requirements during pregnancy and early childhood is crucial for short- and long-term health and cognitive function. Meta-analyses confirm that supplementation or fortification of food with the 'big four' (vitamin A, iron, zinc, and iodine) is efficacious to reduce the risk of infectious disease and improves growth and cognitive outcome. More recently, folate and vitamin B₁₂ deficiencies during pregnancy have been shown to be associated with poor neurodevelopmental outcome and childhood obesity.

The papers collected in the book at hand address the fact that maternal and fetal deficiencies can induce inadequate metabolic programming in the offspring, with increased risk for non-communicable diseases later in life. World-renowned experts in the fields of epidemiology and nutritional intervention met with those in genetics, epigenetics, and metabolic outcome to clarify the pathogenesis of micronutrient deficiencies in pregnancy and childhood, preventive methods and strategies, and opportunities for treatment.

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