The importance of nutrition in pregnancy and lactation: lifelong consequences Nicole E. Marshall, MD, Barbara Abrams, DrPH, RD, Linda A. Barbour, MD, MSPH, Patrick Catalano, MD, Parul Christian, DrPH, Jacob E. Friedman, PhD, William W. Hay Jr, MD, Teri L. Hernandez, PhD, RN, Nancy F. Krebs, MD, MS, Emily Oken, MD, MPH, Jonathan Q. Purnell, MD, James M. Roberts, MD, Hora Soltani, PhD, MMedSci, RM, PGDip, PGCert, Jacqueline Wallace, PhD, DSc, Kent L. Thornburg, PhD Department of Obstetrics and Gynecology, Oregon Health & Science University, Portland, OR (Dr Marshall); School of Public Health, University of California, Berkeley, CA (Dr Abrams); Departments of Medicine (Dr Barbour) and Obstetrics and Gynecology (Dr Barbour), University of Colorado School of Medicine, Aurora, CO; Department of Obstetrics and Gynecology, Mother Infant Research Institute, Tufts University School of Medicine, Boston, MA (Dr Catalano); Gerald J. and Dorothy R. Friedman School of Nutrition Science and Policy, Tufts University, Boston, MA (Dr Catalano); Department of International Health, Bloomberg School of Public Health, Johns Hopkins University, Baltimore, MD (Dr Christian); Departments of Physiology (Dr Friedman), Medicine (Dr Friedman), Biochemistry (Dr Friedman), and Microbiology and Immunology (Dr Friedman), Harold Hamm Diabetes Center, University of Oklahoma Health Sciences Center, Oklahoma City, OK; University of Colorado, Denver, CO (Dr Hay); Department of Medicine, College of Nursing, University of Colorado Anschutz Medical Campus, Aurora, CO (Dr Hernandez); Department of Pediatrics, University of Colorado School of Medicine, Aurora, CO (Dr Krebs); Department of Population Medicine, Harvard Medical School and Harvard Pilgrim Health Care Institute, Boston, MA (Dr Oken); Department of Medicine, Knight Cardiovascular Institute, Bob and Charlee Moore Institute of Nutrition and Wellness, Oregon Health & Science University, Portland, OR (Dr Purnell); Departments of Obstetrics and Gynecology and Reproductive Sciences (Dr Roberts), Epidemiology (Dr Roberts), and Clinical and Translational Research (Dr Roberts), Magee–Womens Research Institute, University of Pittsburgh, Pittsburgh, PA; Department of Maternal and Infant Health, Sheffield Hallam University, Sheffield, England (Dr Soltani); Rowett Institute, University of Aberdeen, Aberdeen, Scotland (Dr Wallace); and Department of Medicine, Center for Developmental Health, Knight Cardiovascular Institute, Bob and Charlee Moore Institute of Nutrition and Wellness, Oregon Health & Science University, Portland, OR (Dr Thornburg).Author Manuscript Author Manuscript Author Manuscript Author Manuscript The WHO global guidance for antenatal care recommends several central nutritional and health interventions for a healthy pregnancy, including multiple micronutrient supplements containing iron and folic acid, calcium supplementation for the prevention of preeclampsia in low intake contexts, and balanced energy and protein supplementation for undernourished populations to reduce LBW.2 For women with easy access to low–quality food and who are overweight or have obesity, evidence to support preconception nutrition is insufficient and mostly observational.These requirements begin very early because of the fetal need to synthesize thyroid hormone, critical for early neurogenesis, proliferation migration, differentiation, neurite outgrowth and guidance, synaptogenesis, and myelination.Author manuscript; available in PMC 2022 June 09.