



Changes in Dietary Protein, Amino Acids, Folate and Other Nutrients or Toxins Regulate Embryonic and Fetal Growth and Development: Implications for Transgenerational Metabolic Disorders in Adults

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Message from the Guest Editors

The developmental origins of health and disease (Barker) hypothesis posits that maternal and paternal lifestyle variations, such as changes in diet, can alter early embryo development through both genetic and epigenetic modifications that may last a lifetime. When the environmental exposure leads to more permanent epigenetic modifications in sex cells or very early embryos, it causes transgenerational transmission of traits even in the absence of further environmental exposure of subsequent generations. During early embryo development, the epigenetic reprogramming window is a critical period for environmental factors, such as increases or decreases in dietary protein, amino acids, folate, and other nutrients or toxins, to cause permanent changes in epigenetic modifications and resultant disease susceptibility. Papers addressing these and related topics are invited for this Special Issue, including those presenting new findings as well as ones reviewing the field more broadly. Works to mitigate such harmful dietary effects are also encouraged.





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Message from the Editor-in-Chief

Addressing the environmental and public health challenges requires engagement and collaboration among clinicians and public health researchers. Scientific discoveries and advances in this research field play a critical role in providing a rational basis for informed decision-making toward control and prevention of human diseases, especially the illnesses that are induced from environmental exposure to health hazards.

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