Journal of Developmental Origins of Health and Disease (2013), **4**(1), 1–2.
© Cambridge University Press and the International Society for Developmental Origins of Health and Disease 2013
doi:10.1017/S2040174412000700

In This Issue

This issue of the *Journal of Developmental Origins of Health and Disease* contains two review articles: one brief report and seven original articles. The articles examining human outcomes include risks of breast cancer, affective disorders and body composition among offspring, while the basic science papers evaluate mechanisms of programming in response to hypoxia, glucocorticoids and inflammation.

Reviews

From Mice to Men: research models of developmental programming. Rabadan-Diehl and Nathanielsz provide an insightful view of the challenges, mechanisms and outcomes of developmental programming. The authors present 10 principles of programming as they apply to humans and animal models, and emphasize the value of understanding comparative systems physiology among species in order to assist in understanding human programming.

Early-life conditions and older adult health in low- and middle-income countries: a review. McEniry provides a comprehensive review of human studies examining low- and middle-income countries in which early life exposures were associated with older adult health. These studies emphasize the importance of early life environment, including *in utero*, early infancy and childhood, on health at older ages.

Brief Report

No evidence of programmed late-life mortality in the Finnish famine cohort. Saxton *et al*. examined a Finnish birth cohort death rate from men and women born during the 1867–1868 Finnish famine and found no support for the argument that exposure to famine *in utero* induced excess mortality from ages 60–89 years. The authors discuss that post-famine food availability returning to 'normal' rather than to an obesogenic level may have reduced the risk of adult morbidity in this cohort.

Original Articles

Perinatal characteristics and breast cancer risk in daughters: a Scandinavian population-based study. Troisi *et al*. assess perinatal factors in a case–control study of women with primary invasive breast cancer, confirming the positive association with birth weight. An understanding of the mechanisms of the oncogenic risk is critically needed in order to institute preventative strategies.

Pre-pregnancy maternal overweight and obesity increase the risk for affective disorders in offspring. Robinson *et al*. utilize the Western Australian Pregnancy Cohort to examine the association of maternal pre-pregnancy body mass index and affective problems in children aged 5–17 years. The authors demonstrated higher incidence of affective problems among children of women who were overweight and obese, and discuss the significant implications for public health interventions.

Effect of vitamin D deficiency during pregnancy on offspring bone structure, composition and quality in later life. Lanham *et al*. examine the effects of maternal vitamin D deficiency in rats on bone structure. Vitamin D-deficient offspring demonstrated altered trabecular parameters at birth and at 20 weeks of age, despite repletion of vitamin D from birth. The authors emphasize that supplementation of the offspring, although potentially of value, will not remedy the need for appropriate maternal vitamin D prior to and during pregnancy.

Infant BMI trajectories are associated with young adult body composition. Slining *et al*. utilized the Cebu Longitudinal Health and Nutrition Survey to examine the association of body mass index (BMI) trajectories from 0 to 24 months. The authors demonstrated that infant BMI trajectories significantly explain variation in adult body composition, suggesting that early life nutrition may have long-term consequences.

High altitude hypoxia and blood pressure dysregulation in adult chickens. Herrara *et al*. utilized the chick embryo model to examine hypoxia effects on blood pressure regulation. Exposure to high altitude resulted in significantly lower arterial blood pressure and an altered baroreflex sensitivity. The authors provide evidence that the mechanism for this response is triggered during the incubation period rather than after hatching.

The impact of maternal synthetic glucocorticoid administration in late pregnancy on fetal and early neonatal hypothalamic–pituitary–adrenal axes regulatory genes is dependent upon dose and gestational age at exposure. Li *et al*. determined the protein expression of hypothalamic–pituitary–adrenal regulatory molecules following glucocorticoid exposure in sheep. These findings indicate glucocorticoid-induced responses, which persist to at least 12 weeks of age and provide further support for the careful use of maternal glucocorticoids in pregnancy.

https://doi.org/10.1017/S2040174412000700 Published online by Cambridge University Press

Prenatal stress enhances severity of atherosclerosis in the adult apolipoprotein E-deficient mouse offspring via inflammatory pathways. Ho *et al.* utilized apolipoprotein E-deficient dams to examine the effects of sound stress during pregnancy. The authors demonstrate that sound stress resulted in increased frequency of atherosclerotic plaques in apoE$^{-/-}$ offspring, potentially a result of reduced impaired inflammation suppression. These results contribute importantly to the larger body of literature demonstrating adverse effects of perinatal stress.

Michael G. Ross, M.D., M.P.H.
Editor-In-Chief,
Journal of Developmental Origins of Health and Disease (J DOHaD)

https://doi.org/10.1017/S2040174412000700 Published online by Cambridge University Press