Journal of Developmental Origins of Health and Disease (2014), **5**(3), 159–160.

doi:10.1017/S2040174414000270

In This Issue

This issue of the *Journal of Developmental Origins of Health and Disease* contains an obituary of David Barker's remarkable life and career, complemented by four brief reports, one fast track article from the 2013 International Society Meeting and eight original articles. It is remarkable that Dr Barker's career ultimately inspired the founding of *J DOHaD*, as well as the articles within this issue.

Obituary

Cooper *et al*. have provided a wonderfully insightful review of David Barker's career and contributions. We remain indebted and appreciative of all that Dr Barker did to foster DOHaD.

Brief Reports

Placental weight and foetal growth rate as predictors of ischaemic heart disease in a Swedish cohort. Heshmati and Koupil examined the correlation between placental weight and birth weight and future ischaemic heart disease among study participants from the Uppsala Birth Cohort in Sweden. The authors found that low foetal growth rate rather than placental weight was more predictive of ischaemic heart disease.

Adolescent experience predicts longevity: evidence from historical epidemiology. Falconi *et al*. hypothesized that life-threatening stressors during early adolescence would impact upon male life expectancy at age 20. The authors demonstrated that stressors during ages 10–14 are more strongly associated with a decrease in life span, compared with stressors during infancy or other adolescent periods. These findings suggest that adolescent development represents a critical period of opportunity for early-life intervention.

Maternal depression and foetal responses to novel stimuli: insights from a socio-economically disadvantaged Indian cohort. Fernandes *et al.* examined South Indian depressed and non-depressed mothers for foetal cardiovascular responses. The authors demonstrated that foetal stress response activity was elevated among women with both high and low depression scores as compared with women with moderate levels of depression. These findings suggest that the intrauterine environment may condition foetal cardiovascular stress responses.

Impact of maternal hyperlipidic hypercholesterolaemic diet on male reproductive organs and testosterone concentration in rabbits. Dupont *et al*. examined the effect of a high-fat diet–induced maternal hyperlipidaemia and hypercholesterolaemia (HH) on male rabbit offspring reproductive function. The findings indicate that male rabbits born to HH dams had significantly lighter testes and epididymes as compared to controls, indicating that maternal metabolic status may impact on male reproductive organs.

Original Articles

Association of early postnatal growth trajectory with body composition in term low birth weight infants. Khandelwal *et al*. examined low birth weight infant weight gain and length during the first year of life. Infants with early catch-up growth had higher per cent fat mass at 7.2 months of age than did with infants with no catch-up growth. These findings emphasize that serial growth monitoring should include concern for both growth faltering and rapid catch-up growth.

Challenges in modelling the random structure correctly in growth mixture models and the impact this has on model mixtures. Gilthorpe *et al*. examined the use of growth mixture models to assess the effect of early-life experiences on later life morbidity and mortality. The authors emphasize that it is essential to consider the random structure of data within a growth mixture model in order to correctly interpret model inferences.

Maternal supplementation with fishmeal protects against late gestation endotoxin-induced fetal programming of the ovine hypothalamic–pituitary–adrenal axis. Fisher *et al*. utilize an ovine model of maternal lipopolysaccharide (LPS) exposure to examine the effect of fishmeal diets (n-3 polyunsaturated fatty acid) on offspring hypothalamic–pituitary–adrenal axis (HPA) responses. Fishmeal supplementation of LPS-treated mothers resulted in offspring with altered cortisol responses and gender specificity. These findings suggest that fishmeal supplementation may impact on HPA development, particularly among offspring exposed to inflammatory stimuli.

Leptin levels at birth and infant growth: the EPOCH study. Kaar *et al*. utilized a sample of mother–infant pairs resulting from the EPOCH study from Colorado, USA to examine the association between cord blood leptin levels and body mass index growth velocity in the first year of life. The authors' results suggest that lower cord blood leptin levels are associated with faster infant growth, though not a result of infant's exposure to over-nutrition *in utero*. The mechanism by which there is an increased propensity for obesity associated with foetal over-nutrition remains to be elucidated.

Effects of maternal separation on the dietary preference and behavioral satiety sequence in rats. Matilde *et al*. assessed the effects of maternal separation at postnatal day 1 on rat offspring

feeding behaviour. The results suggest that maternal separation, particularly within the dark cycle, during early life, may impact feeding preferences through 6 months of age.

Adult offspring of high-fat diet–fed dams can have normal glucose tolerance and body composition. Platt *et al.* examine the effect of a high-fat diet fed to maternal mice before and during pregnancy and for the first 2 weeks of nursing. Offspring born to high-fat fed dams had significantly increased body weight before weaning but only female offspring exhibited long-term body weight increases. The authors discuss the important variables that must be considered when implementing high-fat feeding in offspring obesity studies.

Birth weight and cognitive function in early adulthood: the Australian aboriginal birth cohort study. Pearce *et al.* utilized an Australian aboriginal birth cohort to assess the relationship between cognitive function and birth weight. The authors demonstrated greater working memory in young adults born with restricted growth, though no association was seen with contemporary height. These finding suggest that foetal growth may be more important than postnatal growth in regards to cognition in early adulthood.

Prenatal programming of obesity in a swine model of leptin resistance: modulatory effects of controlled postnatal nutrition and exercise. Barbero *et al.* examined the effect of maternal nutrient restriction on offspring phenotype and gene expression in swine. Females from food-restricted pregnancies were heavier and more corpulent though the increased size was not accompanied by increased adiposity. The authors suggest that effects of prenatal programming may be modified by food availability and physical exercise during early development.

Fast Track Article

Impact of a walking intervention during pregnancy on post-partum weight retention and infant anthropometric outcomes. Kong *et al.* examined the effect of a walking intervention on overweight or obese pregnant women. The authors demonstrate that the intervention was associated with reduced post-partum weight retention, in part a result of lifestyle modification during and following pregnancy.

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/S2040174414000270 Published online by Cambridge University Press