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In This Issue

In this issue of *Journal of Developmental Origins of Health and Disease*, we have three comprehensive review articles and four original manuscripts. The review articles encompass the report from the 2014 Gravida Strategic Summit, which was held in Auckland, New Zealand, a meta-analysis of the association between birth weight and risk of adult coronary heart disease, and a review of the impact of early life on skeletal muscle development. The original articles include a statistical assessment of confounding adjustment methods, and three human studies examining developmental origins of hypertension, osteoarthritis and metabolic syndrome.

Reviews

The importance of early life in childhood obesity and related diseases: a report from the 2014 Gravida Strategic Summit. Macaulay *et al.* report on the recommendations resulting from the 2014 Gravida Summit to determine which areas of research may contribute to strategies to prevent childhood obesity. The authors compiled the highlights of the speakers with a focus on research evidence and opportunities in regards to mechanisms, biomarkers and potential intervention strategies.

Birth weight and risk of coronary heart disease in adults: a meta-analysis of prospective cohort studies. Wang *et al.* performed a meta-analysis according to Cochrane Methodology to examine the sometimes inconsistent findings in the relationship between birth weight and coronary heart disease. The authors report that low birth weight is significantly associated with an increased risk of coronary heart disease, with a 1 kg increase in birth weight associated with a 10–20% lower risk of heart disease.

Growing healthy muscles to optimize metabolic health into adult life. Bayol *et al.* present a comprehensive review of skeletal muscle development and growth and the mechanistic basis by which altered maternal nutrient environments, particularly maternal obesity, impacts muscle growth and function into adult life. The authors discuss potential interventions including exercise, hormonal and nutritional therapies to optimize skeletal muscle function.

Original Articles

A comparison of confounding adjustment methods with an application to early-life determinants of childhood obesity. Li *et al.* utilized data from the prospective cohort study Project Viva to examine approaches for multiple confounding adjustment methods. The authors demonstrate that the method of covariant adjustment can impact on statistical results, and recommend inspecting covariate overlap and utilizing multiple confounding adjustment methods to demonstrate consistency of conclusions.

Increased systemic blood pressure and arterial stiffness in young adults born prematurely. Tauzin *et al.* characterized systemic blood pressure and arterial stiffness, measured non-invasively, in young adults born preterm. Adults, aged 21 years, born preterm, had significantly higher systolic and diastolic blood pressure in conjunction with evidence of increased arterial stiffness. These findings are consistent with previous studies in which the authors demonstrated increases in arterial stiffness in early life among preterm infants.

Further evidence of the developmental origins of osteoarthritis: results from the Hertfordshire Cohort Study. Clynes *et al.* examined the relationships between early-life growth and clinical and radiologic evidence of osteoarthritis in patients in the Hertfordshire Cohort Study. Lower weights at 1 year of age were associated with an increased risk of clinical hand osteoarthritis, increased hip osteophytes and a higher osteophyte number in the lateral compartment of the knee. As osteoarthritis is a degenerative disease, these findings suggest that altered early-life development may hasten degenerative processes in adult life.

Effects of breastfeeding on the risk factors for metabolic syndrome in preterm infants. Ikeda *et al.* assessed insulin sensitivity and lipid metabolism in preterm infants fed breast milk or mixed fed (breast milk and formula). Insulin sensitivity check index was significantly higher in the breastfed group with the type of feeding exposure also influencing several aspects of glucose, lipid and apolipoprotein metabolism.

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