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In this issue

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In addition to the themed articles from the 2019 DOHaD World Congress (see attached editorial), this issue of JDOHaD contains six original manuscripts, one brief report, and one review article. These articles complement the theme of the DOHaD World Congress as they encompass research, education, and policy.

Review article

Cardiovascular Risk Factors in Offspring Exposed to Gestational Diabetes Mellitus in Utero: Systematic Review and Meta-Analysis. Pathirana and co-authors review both prospective and retrospective studies comparing offspring exposed to GDM to controls. The analysis found that offspring exposed to GDM in utero have elevated systolic blood pressure, BMI, and serum glucose, representing significant risk factors for adult cardiovascular disease. The authors postulate that offspring exposed to GDM in utero may benefit from early childhood blood pressure measurements.

Brief report

The Effect of High Maternal Linoleic Acid on Endocannabinoid Signaling in Rodent Hearts. Sleep *et al.* examine the effects of elevated linoleic acid in cardiomyoblasts in vitro and effects on maternal and offspring hearts. In vitro, linoleic acid reduced cardiomyoblast cell viability, while in vivo exposure reduced cannabinoid receptor type 2 expression in fetal hearts and increased expression in maternal hearts. These findings suggest that a high-linoleic-acid diet, reported to be pro-inflammatory and pro-oxidative, may potentially alter both maternal and offspring cardiac function.

Original articles

Association of Urinary Polycyclic Aromatic Hydrocarbons and Obesity in Children Aged 3–18: Canadian Health Measures Survey, 2009–2015. Bushnik and colleagues analyzed data from children in the Canadian Health Measures survey to determine the association of polycystic aromatic hydrocarbons (PAH) and obesity in young children. The authors demonstrate that children with the highest quartile of PAH metabolites had three times greater odds of having central obesity compared with those in the lowest quartile. In view of the ubiquitous nature of PAH exposure, these findings raise serious concerns and the need for future studies.

Maternal Mental Health and Internalizing and Externalizing Psychopathology in Extremely Low Birth Weight Adults. Rangan and co-authors sort to determine the extent to which a maternal history of mental health problems influence mental health in extremely low birth weight and normal birth weight offspring as adults. Extremely low birth weight adults appear to be more susceptible to the adverse mental health effects of maternal mood and anxiety disorders than normal birth weight peers. The authors suggest efforts to detect and treat mental health problems in parents of preterm survivors.

The Mediation Effect of Anthropometry and Physical Fitness on the Relationship between Birth Weight and Basal Metabolic Rate in Children. Nobre *et al.* examine the mediation effect of anthropometry and body composition on the association between birth weight and basal metabolic rate. The authors found that anthropometric variables associated with birth weight (body height, head, waist circumference, and hip circumference) have a mediating effect on childhood BMR at age of 7–10 years. These findings emphasize the importance of physical activity for schoolchildren, especially those born low birth weight.

Isolated Oligohydramnios and Long-Term Neurologic Goal Morbidity of the Offspring. Dorot and co-authors utilize a computerized obstetrical database linked to pediatric hospitalizations. The authors demonstrate that neurological-related hospitalizations and developmental disorders, movement disorders, and degenerative disorders are more common in offspring exposed to oligohydramnios. These findings raise important questions as to the obstetrical management of idiopathic oligohydramnios near-term.

A Paternal Hypercaloric Diet Affects the Metabolism and Fertility of F1 and F2 Wistar Rat Generations. Oshio and colleagues examine the effect of a high-fat, high-sugar diet on reproductive and metabolic parameters in male generations F0, F1, and F2. F1 and F2 offspring

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of the hypercaloric diet displayed early prepubertal development and F1 offspring demonstrated decreased testicular development compared to controls. These findings raise significant concerns regarding high-fat, high-carbohydrate diets on male reproductive function.

Ramadan Exposure and Birth Outcomes: A Population-Based Study from the Netherlands. Savitri and co-authors examine the effects of Ramadan and potential fasting during pregnancy and infant outcomes. Although prior research showed long-term adverse health effects, these authors demonstrate little or no relation between exposure to Ramadan during pregnancy and birth outcomes.

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