

Editorial

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Editorial: Outcomes from the 2018 Australia and New Zealand Developmental Origins of Health and Disease (ANZ DOHaD) scientific meeting

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This themed issue of the Journal of Developmental Origins of Health and Disease (DOHaD) represents the work presented at the 2018 Australia and New Zealand (ANZ) DOHaD scientific meeting, held in Sydney, Australia. The theme of the meeting was Genes, Environment and Evolution. The meeting celebrated the contribution of evolutionary medicine to the DOHaD field with a program that highlighted the multi-disciplinary nature of DOHaD research in Australia and New Zealand. Every year, the ANZ DOHaD society recognizes leaders in the field of DOHaD in Australasia. Prof Karen Moritz from the University of Queensland gave the Newnham Oration where she led us along her journey as a DOHaD researcher investigating alcohol and healthy aging. Prof Frank Bloomfield from the University of Auckland gave the Gluckman Oration focusing on whether preterm babies are subject to a trade-off between neurodevelopment and later metabolic health.

The ANZ DOHaD has made considerable efforts to support early to mid-career researchers and, in order to celebrate these contributions, the 'New Investigator Award' was launched at this meeting. Finalists included Dr Tracey Schumacher, Dr Namitha Mohandas, Dr Clare Reynolds, with Dr Lisa Stinson as the award winner. We also congratulate Dr Jacquie Bay who was awarded the Sue Sayers Award for contribution to indigenous health. The Early Life Nutrition Award was presented to Dr Sally Draycott. Best poster/abstract winners included Dr Emily Dory and Sarah Gazzard and travel awards were received by Michelle Plummer, Mingjing Hu, Prabha Andraweera, Lawrence Gray and Magdalena Klimek. All prize winners and orators were invited to submit a manuscript based on their presented data for this themed issue.

The impact of early life disruption of the microbiome on non-communicable disease was explored in a review article by Lisa Stinson.¹ This review explores factors such as antibiotic exposure, mode of delivery and breastfeeding that may contribute to early life microbiome dysbiosis and the health outcomes that may arise including asthma, allergy, obesity and neuropsychiatric conditions. The author suggests that interventions to optimize the development of the microbiome may be beneficial in reducing the onset of non-communicable disease in later life.

Burgess and Mortiz reviewed the impact of prenatal alcohol exposure on neurodevelopmental outcomes.² This review focused on the mechanisms that underlie the link between prenatal alcohol exposure and mental illness. The authors highlight that public health policy around alcohol consumption is lacking and that understanding the impact of low concentrations of alcohol during pregnancy is critical for supporting individuals with fetal alcohol spectrum disorder.

Draycott *et al.* explore the impact of diet-induced obesity on pregnancy and its implications for cholesterol transport in the placenta of rats.³ Their findings suggest that the omega-6 components of their diet increase cholesterol transport across the placenta. While follow-up experiments in human placenta demonstrated that BMI elicits changes in expression of markers relevant to cholesterol transport, observations were not consistent and the authors highlight that further exploration would require some knowledge of dietary intakes.

Gray *et al.* examine the use of a novel polymerase chain reaction *Prevotella copri* in pregnant women.⁴ This bacterium has been associated with impaired glucose tolerance and the authors sought to develop a rapid method for identification and possible use as a biomarker. They found that *P. copri* was distributed bimodally, with either high or low abundance and suggest that this technique could be used in large longitudinal studies.

Andraweera *et al.* investigate the mechanisms by which exposure to preeclampsia *in utero* can increase the risk for cardiovascular disease in later life.⁵ They explore concepts such as shared environment and genetics as well as epigenetic factors which may influence cardiovascular complications in the offspring. The authors highlight that exposure to preeclampsia *in utero* increases the risk for cardiovascular disease and therefore, these individuals represent a target population for primary preventative strategies.

Together, this collection of papers represents just some of the great work that was presented at the Genes, Environment and Evolution 2018 ANZ DOHaD scientific meeting.

References

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