Assessing Understanding of the DOHaD Hypothesis in Target Communities to Inform Translational Intervention Design

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With the accumulation of compelling evidence, the Developmental Origins of Health and Disease (DOHaD) hypothesis has reached the stage of translational research. Such research supports the development and testing of interventions to support primary prevention of noncommunicable diseases (NCDs) via application of DOHaD principles. However, very little evidence exists regarding baseline public understanding of DOHaD concepts and even less around the impact of public understanding interventions in this field. Existing evidence demonstrates relatively low levels of understanding of DOHaD in first-time mothers, 11–14 year old school students and their parents, and 18-22 year old female university students.

Knowledge translation interventions should engage target groups in processes that allow access to and discussion about scientific evidence within the socio-ecological context of the group. Knowledge of baseline understanding of DOHaD concepts, as well as NCD risk awareness and prevention understanding is required to inform the development of transactional interventions. To address the lack of research surrounding public awareness and understanding of the concepts of early life origins of adult disease we have initiated The Public Understanding of DOHaD Project (http://www.lenscience.auckland.ac.nz/en/about/our-research/Public-understanding-DOHaD.html).

This collaboration between researchers in New Zealand and Japan is establishing baseline knowledge of DOHaD hypothesis understanding in groups identified as key targets for intervention. This evidence will be used to inform the development of knowledge translation interventions. The project has developed a validated questionnaire with context-appropriate versions that enables data collection from the general public, adolescents in schools, health-sector professionals, and tertiary students studying to be health professionals.

The aim is to identify cohorts and pathways through which improved DOHaD theory education of future health professionals might lead to improved communication of the knowledge to the general public and those who are at most risk of NCDs, and charged with growing our next generation.
This questionnaire enables us to make comparison among various countries and populations, and revealed that there is apparent difference in understanding of DOHaD (both the term and the concept) between future dieticians in New Zealand and Japan.

While not alarming in itself, it highlights a potential avenue for education of the population about NCD risk avoidance. In New Zealand, premature mortality between the ages of 30 and 70 due to the top 4 NCDs (Cancers, Diabetes, Cardiovascular Diseases, and Chronic Respiratory Diseases) is 11%, in Japan it is 9% (WHO NCD diseases country profiles 2014). In comparison, the USA is 14%, China is 19% and India is 26%. Knowing the baseline understanding of DOHaD theory in the general population of a country could effectively highlight an avenue for intervention.

The questionnaire is designed in two formats to be easily understood by highly educated health professional trainees, and the general public - and is very easily translated. The collaboration has recently been extended to a group in China and we look forward to adding another country into the comparison.

Should you wish to use the questionnaire within your own research setting, please don’t hesitate to initiate a conversation with Professor Oyamada or email him at oyamada@fujijoshi.ac.jp