

## **S01-08 Balancing the risk of Methylmercury and benefits of n-3 Polyunsaturated**

### **Fatty Acids Exposure from Fish Consumption**

**Laurie H.M. Chan<sup>1</sup>, Anna Choi<sup>3</sup>, Kathryn R. Mahaffey<sup>5</sup>, Emily Oken<sup>4</sup>, Mineshi Sakamoto<sup>6</sup>, CH Yan<sup>2</sup>**

- 1. University of Northern British Columbia, Canada**
- 2. XinHua Hospital, China**
- 3. Harvard School of Public Health, USA**
- 4. Harvard Medical School, USA**
- 5. George Washington University School of Public Health**
- 6. National Institute of Minamata Disease, Japan**

*E-mail: lchan@unbc.ca*

Fish and shellfish are widely available food that provides many nutrients, particularly the n-3 polyunsaturated fatty acids (n-3 PUFAs), to many populations globally. Research conducted over the past several years suggests that there are benefits linked to brain and visual system development in infants and reduced risk for certain forms of heart disease. However, fish and shellfish are also the major source of methylmercury (MeHg), a known neurotoxicant that is particularly harmful to fetal brain development. The objectives of this panel presentation are: 1) to review data on the distributions of MeHg and n3-PUFAs across different fish/shellfish species; 2) to estimate dietary intake of both MeHg and n-3 PUFAs in different countries; 3) to review the latest biomedical findings on the role and interactions of both n3-PUFAs and of MeHg on prenatal neurodevelopment; and 4) to review the latest epidemiological data on effects of fish consumption on child development. The goal is to develop a consensus on benefits and risks associated with fish consumption and to provide dietary advice on how to maximize the dietary intake of n-3 PUFAs and minimize MeHg exposures through optimal choice of fish and shellfish species.

**Keywords:** n-3 PUFA; Fish; Neurodevelopment; Risks; Benefits