Exposição ao metilmercúrio e efeitos em humanos : não considera os efeitos do estresse inflamatório /oxidativo crônicos aumentando risco de doenças degenerativas

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Methylmercury Exposure and Health Effects in Humans: A Worldwide Concern

Donna Mergler, Henry A. Anderson, Laurie Hing Man Chan, Kathryn R. Mahaffey, Michael Murray, Mineshi Sakamoto, and Alan H. Stern

Dr. Donna Mergler is a professor emerita in the Department of Biological Sciences and the Institute for Environmental Sciences at the University of Québec at Montreal and a member of the Centre for Interdisciplinary Research on Biology, Health, Society, and the Environment (CINBIOSE), a WHO-PAHO Collaborating Centre for the Prevention of Occupational and Environmental Illness. She has carried out

numerous studies with populations exposed to mercury in Canada and Brazil, by using an ecosystem approach that examines contaminants' sources, pathways and effects, with a view to prevention intervention. Her address: CINBIOSE, University of Quebec at Montreal, CINBIOSE, CP 8888 succ Centreville, Montreal, Quebec, Canada H3C 3P8. mergler.donna@uqam.ca

Dr. Henry Anderson is a physician certified by the American Board of Preventive Medicine with a subspecialty in occupational and environmental medicine. He is a fellow of the American College of Epidemiology and Chief Medical Officer and State Environmental and Occupational Disease Epidemiologist with the Wisconsin Department of Health and Family Services. He has adjunct professor appointments in population health in the Wisconsin School of Medicine and Public Health and the Gaylord Nelson Institute for Environmental Studies. He has conducted multiple research projects

investigating human health hazards of consumption of sport fish and developed the effectiveness of public health advisories. His address: Wisconsin Department of Health and Family Services, Division of Public Health, 1 West Wilson St, Room 150, Madison, WI 53702, USA. anderha@dhfs.state.wi.us

Dr. Laurie Hing Man Chan is a holder of the Dr. Donald Rix BC Leadership Chair in Aboriginal Environmental Health at the University of Northern British Columbia. His work involves both basic and applied research on neurotoxic effects of mercury on wildlife and human populations. He has conducted extensive studies on the risk and benefits of the consumption of traditional food among Indigenous Peoples. His address: University of Northern British Columbia, 3333 University Way, Prince George, BC Canada V2N 4Z9. lchan@unbc.ca

Dr. Kathryn Mahaffey is a toxicologist, who specialized in research on nutrient-toxicant interactions and risk assessment for toxic elements, including methylmercury. She has published the distributional

data on blood and hair mercury concentrations indicating mercury exposures for the US population as part of the National Health and Nutrition Examination Survey. Dr. Mahaffey and two other scientists from the US Environmental Protection Agency established the reference dose for methylmercury, which is the most health protective risk assessment available to date. Her address: 5025 Hawthorne Place NW, Washington, DC 20016, USA. krmahaffey@starpower.net

Dr. Michael Murray is an environmental chemist and has been Staff Scientist in the Great Lakes office of the National Wildlife Federation since 1997. His scientific and science policy research has been in diverse areas, ranging from contaminant sources, environmental cycling, and environmental toxicology to human health aspects of methylmercury, including exposure, effects, and fish advisory protocols and communication. His address: Great Lakes Natural Resource Center, National Wildlife Federation, 213 West Liberty St, Suite 200,

Ann Arbor, MI 48104-1398, USA. murray@nwf.org

Dr. Mineshi Sakamoto, Director of the Department of Epidemiology, National Institute for Minamata Disease, Minamata City, Kumamoto Prefecture, Japan. He is a toxicologist and conducts both epidemiological and experimental studies focused on the heath effects of methylmercury, especially in the early stage of development, when the brain is most vulnerable. His address: National Institute for Minamata Disease, 058–18 Hama, Minamata City, Kumamoto 867-0008, Japan. sakamoto@nimd.go.jp

Dr. Alan Stern is the Section Chief for Risk Assessment and Toxicology in the Division of Science and Research of the New Jersey Department of Environmental Protection and adjunct associate professor in the School of Public Health, and the Department of Environmental and Occupational Medicine of the University of Medicine and Dentistry of New Jersey. He served as a member of the National Research Council/National Academy of

Sciences Committee on the Toxicological Effects of Methylmercury. His address: Division of Science, Research, and Technology, New Jersey Department of Environmental Protection, 401 East State St, Trenton, NJ 08625-0409, USA, and University of Medicine and Dentistry of New Jersey-School of Public Health, Piscataway, NJ, USA. Alan.Stern@dep.state.nj.us

Abstract

The paper builds on existing literature, highlighting current understanding and identifying unresolved issues about MeHg exposure, health effects, and risk assessment, and concludes with a consensus statement. Methylmercury is a potent toxin, bioaccumulated and concentrated through the aquatic food chain, placing at risk people, throughout the globe and across the socioeconomic spectrum, who consume predatory fish or for whom fish is a dietary mainstay. Methylmercury developmental neurotoxicity has constituted the basis for risk assessments and public health policies. Despite gaps in our knowledge on new bioindicators of exposure, factors that influence MeHg uptake and toxicity, toxicokinetics, neurologic and cardiovascular effects in adult populations, and the nutritional benefits and risks from the large number of marine and freshwater fish and fish-eating species, the panel concluded that to preserve human health, all efforts need to be made to reduce and eliminate sources of exposure.

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Variable	NAS/NRC (2000)	JECFA (2003)
Studies	Considered Faroes, New Zealand, Seychelles. Final value based on Faroes	Faroes and Seychelles
Biomarker used as index	Cord blood, $\mu g\ L^{-1}$	Maternal hair [Hg], $\mu g\ g^{-1}$ or ppm.
BMDL selected	58 $\mu g\ L^{-1}$ cord blood	14 $\mu g\ g^{-1}$ maternal hair
Uncertainty factor	Uncertainty factor = 10. 3.2 for toxicokinetics. 3.2 for toxicodynamics	3.2 (100.5) (individual variation) × 2 for overall average interindividual variation = 6.4 No toxicodynamic factor.
Exposure limit	Reference dose of 0.1 $\mu g\ kgbw^{-1}\ d^{-1}$ (equal to 0.7 $\mu g\ kgbw^{-1}\ wk^{-1}$)	1.6 $\mu g\ kgbw^{-1}\ wk^{-1}$ (equal to 0.23 $\mu g\ kgbw^{-1}\ d^{-1}$)