



Personal Exposure to Fine-particle Black Carbon Air Pollution Among Schoolchildren Living in Ulaanbaatar, Mongolia

Ulzii Dashnyam^{1,2}, Nicole Warburton³, Rossa Brugha⁴, Ichinkhorloo Tserenkh¹, Enkhmaa Davaasambuu¹, Shonkhuuz Enkhtur¹, Bayalag Munkhuu¹, Sereeter Lodoysamba⁵, Baigalmaa Dashdendev¹, Jonathan Grigg⁴, David Warburton³

¹National Center for Maternal and Child Health, Ulaanbaatar, Mongolia; ²Department of Pediatrics, School of Medicine, Mongolian National University of Medical Sciences, Ulaanbaatar, Mongolia; ³The Saban Research Institute, Children's Hospital Los Angeles and Keck School of Medicine, University of Southern California, Los Angeles, CA, USA; ⁴The Blizard Institute, Barts and The London School of Medicine and Dentistry, London, England, UK; ⁵National University of Mongolia, Ulaanbaatar, Mongolia

Cent Asian J Med Sci. 2015 November;1(1):67-74

In this study, personal monitoring of black carbon in the $PM_{2.5}$ size fraction was conducted with children. In the article, several times measurements were referred to incorrectly as being personal $PM_{2.5}$ exposure, which is not accurate since black carbon within the $PM_{2.5}$ size fraction was measured, not total $PM_{2.5}$. The stationary monitoring was referred to correctly since black carbon in the $PM_{2.5}$ size fraction was measured with the AethLabs aethalometer in addition to the $PM_{2.5}$ size fraction with the TSI DustTrak, but the children's exposure was only measured with the AethLabs aethalometer. As seen in Table 1 from the stationary monitoring, black carbon comprises only 5-31% of the total $PM_{2.5}$ concentration. Therefore, if the children's exposure in Table 2, Figure 3, and in the text is interpreted as total $PM_{2.5}$ exposure, their exposure to $PM_{2.5}$ is underestimated. In all instances referring to the children's exposure, the measurement should be referred to as the black carbon in the $PM_{2.5}$ size fraction.

Vol.2• No.1• May 2016 www.cajms.mn **107**