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### **Factors related to mercury exposure in pregnancy**

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Background and hypothesis: Environmental factors related to an increase of heavy metal exposure in gestational period of the pregnant women are associated with the adverse pregnancy outcomes. We investigated the relationship between mercury concentrations of the maternal blood and environmental factors during pregnancy.

Methodology: A multi-centre prospective cohort study, Mother and Children's Health and Environment (MOCHE) program, was built up with women who visited one of the three collaborating centres for prenatal care in Korea. About 500 parents and their baby trio were recruited to the cohort in the year 2006. We assessed environmental factors related to mercury exposure with questionnaires and biological samples. After delivery, we collected cord blood and placental tissue and reviewed medical record. Mercury was measured by atomic absorption spectrophotometer (AAS) in whole blood.

Results: Mothers with a full time job had higher concentrations (5.35 µg/dl) of mercury in blood compared to those with part time job (3.74 µg/dl,  $p < 0.05$ ). Mercury concentrations in blood were higher in women using products for cleansing and removal agents (7.27 µg/dl) compared to those not using them (3.99 µg/dl,  $p < 0.05$ ). There was an exposure-response relationship between mercury levels of blood and fish intakes such as white-fish, blue-fish, and sashimi ( $p < 0.05$ ).

Implications: We found some of the factors related to the blood mercury level in pregnant women. Further studies are needed to investigate the path how the pregnant women could be exposed the mercury, which would contribute to confirm the accurate exposure assessment.

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