

# **PENGARUH PAPARAN MERKURI TERHADAP KADAR IL-6, IL-10, IFN- $\gamma$ , DAN PREEKLAMPSIA DI JAWA TENGAH, INDONESIA**

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## ***ABSTRACT***

**Objective:** *This research analyzed the effects of mercury (Hg), Interleukin-6 (IL-6), Interleukin-10 (IL-10), and Interferon- $\gamma$  (IFN- $\gamma$ ) levels on Preeclampsia in pregnant women in Central Java, Indonesia. The analysis was conducted by collecting samples of pregnant women's hair and blood.*

**Methods:** *The design of this research was case-control. This research was conducted on 113 pregnant women in Central Java. Data collection was done using questionnaire and medical records. Prenatal exposure of Merkuri was measured from maternal hair samples using mercury analyzer NIC RA-5A. Serum IL-6, IL-10, and IFN- $\gamma$  were examined using ELISA kit. Statistical analysis was done using SPSS.*

**Results:** *In this research, maternal hair mercury concentration was classified in the low category with a median 0.504 (0.039-2.798) ppm. Merkuri concentration in hair was significantly higher among women with preeclampsia than women with normal pregnancy ( $p < 0.001$ ). Hair mercury concentration also significantly related with serum IL-10 ( $p < 0.05$ ). Serum IL-6 and IL-10 also significantly different between control and preeclampsia group. Elevated hair Merkuri concentration was associated with increased preeclampsia risk (OR 20.22;  $p < 0.001$ ; CI 95% 3.77-108.4). Another factors such level of BMI, smoking exposure and pollution from factory were significantly associated with preeclampsia (OR 1.14,  $p < 0.05$ , CI95% 1.01-1,29; OR 7.49,  $p < 0.05$ , CI95% 1.94-28.85; OR 10.83,  $p < 0.05$ , CI95% 2.05-57.31) respectively.*

**Conclusion:** *This study demonstrates that maternal hair mercury concentration is related with IL-10 and preeclampsia.*