**Title**

Association between Arsenic Level in Drinking Water with Skin Disorders in Buyat Village North Sulawesi Indonesia

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**Abstract**

Objectives. Arsenic contamination of groundwater is a severe public health crisis in Buyat Village Kotabunan Sub-district, Bolaang Mangondow Regency, North Sulawesi Province Indonesia, where the population is exposed to arsenic in drinking water through tube wells used for groundwater collection. In this study, we explored the association between Arsenic levels in drinking water with skin disorders on Buyat Communities. Methods. We used baseline data from subject 86, which as 43 case and 43 control who were recruited into the Health Effects (Skin disorders). This study was Case control study on the health effects of arsenic exposure from drinking water in Buyat Village. We conducted analyses with Chi-Square and Odd Ratio. Results. We found a strong dose–response association with all measures of arsenic exposure in drinking water and skin lesions. Arsenic levels in drinking water from tube well of Buyat Village was about 0.01-0.10 mg/L (average 0.056 mg/L). A significance was observed between Arsenic levels in drinking water and skin disorders with p=0.017 (Odd Ratio = 2.87, 95% CI: 1.194-6.934). Conclusions. Our study provides insight into potentially modifiable host characteristics and identifies factors that may effectively target susceptible population subgroups for appropriate interventions. Keywords: Drinking Water, Arsenic, Skin Disorders

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