

FP-192

Relationship between Drinking Water and Blood Arsenic Level with Hyperkeratosis and Melanoma in Buyat Village North Sulawesi Indonesia

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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 relationship between drinking water and blood arsenic levels with hyperkeratosis and melanoma on Buyat Communities.

Methods: The research used of baseline data from subject 108, which as 54 case and 54 control who were recruited into the Health Effects (Skin lesions such as, hyperkeratosis and melanoma). 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 hyperkeratosis & melanoma. Arsenic levels in drinking water from tube well of Buyat Village was about 0.01-0.104 mg/L (average 0.056 mg/L). A significance was observed between in drinking water and blood arsenic levels with $p=0.000$ (Odd Ratio = 19.44 95% CI: 6.52-58.00), blood arsenic levels and hyperkeratosis & melanoma with $p=0.000$ (Odd Ratio = 15.63, 95% CI: 4.94-49.40).

Conclusions: Our study provides insight into potentially modifiable host characteristics and identifies factors that may effectively target susceptible population subgroups for appropriate interventions.

FP-193

Workplace Violence from Citizens (3): Mental Health and Welfare Center

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Objective: To clarify actual circumstances of citizens' violence at mental health and welfare center.

Method: A questionnaire study was completed with the subjects of 66 mental health and welfare center.

Results: 62.5% of the questionnaires (43 cases) were collected. 76.7% of the respondents were public health nurses. 74.4% of the facilities discussed violence in advance, when violent situation was predicted. 41.9% reported that violent situations occurred. Victims were mostly public health nurses, and violence mostly happened during telephone counseling. 95.3% of the respondents reported that they could discuss violence at their workplaces without hesitation. 16.3% of the facilities had prepared violence prevention and protection management manuals. 23.3% of the facilities had carried out in-facility trainings.

Conclusion: The study disclosed a lack of prevention plans, even though violent situations were not rare and was predicted. Because the workplaces of mental health and welfare center have basis to create a violence prevention system, further promotion is needed to develop substantial systems.

FP-194

Workplace Violence from Citizens (2): Child-Welfare Consultation Center

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Objective: To clarify actual circumstances of citizens' violence at child-welfare consultation centers.

Method: Questionnaires were completed by 217 child-welfare consultation centers.

Result: 70.5% respondents answered the questionnaires. The respondents included 69.9% males and 30.1% female. The subjects' occupations included child welfare officer (73.9%), public officer (11.1%), and public health nurse (8.5%). 45.1% of the subjects received violence, and the child welfare officers were most frequently involved in violent situations. Psychological violence happened during telephone counseling, and physical violence mostly happened during home visits. Assailant included parents as well as children at temporal protection facilities. 97.4% of the respondents reported that they could discuss violence at their workplaces without hesitation. 93.5% of the facilities had prepared violence prevention and protection management manuals when violent situation was predicted. Some concrete methods included "the number of staff," "interview place or method," "timing of police report." 43.1% of the facilities prepared violence prevention manuals, such as "self-defense and role play" and "complaint management," and practical use of them were limited to 22.2% of the facilities.

Conclusion: Violence were not only limited to physical, but also it could be threat, sexual harassment, and social violent using Information Technology. It is needed to