

ABSTRACT

Cross sectional analytic study was carried out to assess the magnitude of lead intoxication among under five children in Myeik township. Information was collected by semi-structured interview questionnaires for asking to the parents of under five children. Urine samples were taken from all selected under five children for the determination of urinary delta - aminolevulinic acid level and urinary coporphyrin level. Water samples were taken from water sources which under five children used for drinking purpose. One hundred and thirty under five children (seventy- six male children and fifty- four female children) from five wards in Myeik township participated in this study. Age of under five children was between 3 to 59 months. Seventy one (54.6%) under five children had 79 lead generating businesses at or near their houses (within 100 m range). Forty percent of children had hand washing practices by their mothers before eating, 46.9 percent of children had the habit of placing objects into mouth and 45.4 percent of children had habit of hand to mouth activity. Only 7.7 percent of children had history of taking indigenous medicine. Urinary delta - aminolevulinic acid level above reference value (greater than or equal 6 mg/L) was detected in 58 (44.6%) of under five children. Urinary delta - aminolevulinic acid level was range from 0.2 to 14.4 mg/L. Only nine children (6.9%) used the water sources above reference value (greater than 10 ppb) of lead level. Lead level of water sources was from 2 to 11 ppb. In this study, association between habit of placing objects into mouth and urinary delta - aminolevulinic acid level ($p=0.028$) of under five children, and association between lead generating businesses at or near houses (within 100 m range) of under five children and urinary delta - aminolevulinic acid level ($p=0.001$) were statistically significant. Significant mean difference of urinary ALA was noted between presence and absence of lead generating businesses ($p = 0.002$). This study revealed that habit of placing objects into mouth and lead generating businesses at or near houses of children may cause increase lead exposure in children and increase urinary delta - aminolevulinic acid level above reference value.