**Saliva as a biomarker of arsenic exposure**

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## Saliva is a biofluid that has not been used extensively as a biomonitoring tool in epidemiological studies. This study presents the arsenic (As) concentrations in saliva samples collected from populations of West Bengal, India. We found a significant (p < 0.05) association between the Log transformed Daily Ingestion of As (μg d-1) and the As concentration in saliva (r = 0.68). Additionally, As concentration of saliva and urine also had a significant positive correlation (r = 0.60, p < 0.05). Male participants, smokers and cases of skin lesion were independently and significantly associated with increase in salivary As. Thus our findings show that saliva is a useful biomarker of As exposure in the study population. urine and saliva. The statistical results of the As level in different medium are represented in Table 1. Although the groundwater in our study area have high concentration of As, due to increased social awareness, the participants are now sharing the low As common water sources for drinking purpose. However, the local farmer still uses high As concentration groundwater for irrigation and crop cultivation. Thus there are additional exposures of bioavailable As from foods consumed by the participants. Therefore estimation of the Total daily Intake (TDI) for each participant was calculated as: TDI (µg day-1) = (Cw × V) + (CR × W × 0.92) where, Cw (µgL-1) and CR (µgkg-1) is the concentration of As in water and rice respectively, V (L) is the volume of water consumed daily, W (kg) is the amount of rice taken daily and 0.92 is the fraction of the inorganic As. Influence of age, sex, smoker, BMI and score of skin lesion on SAs were tested and male participants and smokers had a higher concentration of SAs compared to female and non-smokers respectively, while association of SAs with BMI (p = 0.871) and age (p = 0.440) was not statistically significant. Control had lower concentration of SAs and the concentration for severe cases was 2-fold higher than the mild and moderate cases of skin lesion. This study demonstrated SAs as a potent biomarker of As exposure in our study population. The use of saliva for exposure assessment has several advantages compared to other already established biomarkers. The metal ions are actively transported from the plasma and thus represent a measure of internal dose. So monitoring saliva data may provide insight to the As metabolic process.