Environmental Risk Factors Associated to Acute Respiratory Infections in the Bamenda Health District North West Region of Cameroon

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Background: Household air pollution and seasonality are increasingly threatening human habitation in his environment. Assessing the relationship between, indoor air pollution, ambient air pollution, seasonal variations and their contribution to respiratory infection is a public health concern. Indoor air pollution generated largely by inefficient and poorly ventilated stoves, burning biomass fuels such as wood, crop waste and dung, or coal is responsible for the deaths of an estimated 1.6 million people annually. In Cameroon, 7,000 deaths year are associated to air pollution. The World Health Organization recommends maintaining Particulate Matter (PM 2.5) levels to about 10 micrograms per cubic meter for a safe environments. In Cameroon air has an annual average of 65 µg/m3 of PM2.5 particles, which is 6.5 times the WHO safe level. While the city of Bamenda registered an annual average of 132 µg/m3 of PM2.5 particles that is 13.2 times safe level (WHO, Breathelife, 2016).

Objective: We had as objective to assess what impact exposures to household pollutants and seasonal variations had on respiratory health of populations within the city of Bamenda.

Methods: We conducted a cross-sectional analytic and descriptive study in the city of Bamenda. Hospital registers were reviewed for the period January 2013 to April 2016. We also investigate patients visiting the participating health centers and diagnosed from ARIs, the respondents were administered a pre tested questionnaire and later followed to observe their household standard and household living conditions. Data was entered and analyzed using Epi-info 7.2. While excel 2013 used for graphical presentations. Chi-square test was calculated. Unconditional logistic regression analysis were also conducted. A level of $p<0.05$ was considered as the cut-off value for significance.

Results: More than 71% of the population principally used one or more of a solid fuel types (OR, 0.44: CI, 0.21 - 0.92: p-value, 0.03). Indoor cooking exposed people 1.67 more times to ARIs at (CI 1.45 - 4.90: p-value 0.00). Environmental fires exposed people 1.1 times to ARI (OR CI, 1.03 - 3.55: p-value 0.03). Dry and dusty weathers exposed populations to ARIs with (OR 3.24: CI (1.47 - 7.13 p-value 0.00). the prevalence of ARIs in the BHD was 6% of all consultations