**Assessment of Indoor Air Pollution (IAP) Related Disease Burden Especially Amongst Children in Dhading District**

Date: 2009

**Background**

Acute Respiratory Infection is a very important public health problem because of climate, terrain, literacy, poverty and living condition of the people. It is a cause of death globally causing approximately 19% of all deaths before the age of 5 years, according to a World Health Organization estimates. Indoor air pollution from biomass fuels, which is strongly poverty related has been regarded as an important risk factor for Acute Respiratory Infection morbidity and mortality. An estimated 24% of the global disease burden and 23% of all deaths can be attributed to environmental factors. This study was carried out to estimate the environmental burden of diseases due to Acute Lower Respiratory Infection in Under 5 children due to indoor smoke in Dhading district.

**Methods**

The study site was conducted in Dhading district among children aged 50 months from October-December, 2008. The sampling method applied was multistage cluster sampling technique. The primary data was collected by using structured questionnaire. The secondary data was collected using recording format. Data was entered in MS-Excel but analysis was done in Statistical Package for Social Science.

**Results**

The majority of mother of children were illiterate (55%) and their occupation was agriculture. Most of the households (87%) use biomass fuel (dung, charcoal, wood, or crop residues) / coal followed by clean fuel such as kerosene/ LPG/ Bio-gas/ Electric Heater and most of them use indoor stove (73%). Out of total 1800 study population of children, 27.72 % were accompanied by mother during cooking and 40.39% were accompanied only sometimes. Most of the cases of Pneumonia was treated in Health Post/Sub-Health Post (47.90%) followed by private clinic (29.48%). Most of the child contacted with pneumonia within last one year were pneumonia (83%) followed by severe pneumonia (11%). During the survey, one case of death was reported. Population of children exposed to Solid Fuel Users was found 41,313 in Dhading District. The incidence rate of Acute Lower Respiratory Infection was found 1.25 per annum per person. The Years of Life Lost with 3% discounting and uniform age weights was calculated 762 and the Years of Life Lost in Disability with 3% discounting and uniform age weights was calculated 522. Hence, Disability Adjusted Life Years was calculated 1284. About 50 % cases of Acute Lower Respiratory Infection were attributed by indoor smoke in Dhading district. Attributable burden of Acute Lower Respiratory Infection in Under 5 children from Solid Fuel Users was 637.

**Conclusions**

The population at risk must be reduced. For, this instead of traditional stoves, improved cooking stoves must be used and should be in gradual shift from Solid Fuel Users to clean fuel.

**Keywords:** children under five years of age; indoor air pollution; pneumonia; solid fuel users.