**Estimating the Burden of Diarrheal Disease caused by Water and Sanitation**

Date: 2011

**Background**

There is direct relationship between human being, environment and health. The magnitude of health problem is increasing day by day due to various environmental risk factors. Diarrhea is the major health problem in most of the developing countries, and a major significant environment sensitive disease. It is estimated that about 94% of the diarrheal burden is attributable to environment, and is associated with risk factors such as unsafe drinking water, poor sanitation and hygiene. The purpose of this current study is to estimate and calculate scenario based diarrheal diseases burden related to water sanitation and hygiene.

**Methods**

This was a cross sectional, descriptive and comparative study in which 360 households were selected from six different scenarios on the basis of water sources and availability of toilet from terai, hill and mountain regions. All the populations of the selected household of selected communities were the study population. Non-probability (purposive method) technique was used as a method of sampling. Structured Questionnaire was used to collect the data from the household level using one to one interview method. The data was entered using Microsoft Excel Program. The analysis of the data was done by using Statistical Package for Social Science 16.0.

**Results**

Out of the total diarrheal cases of 132 in the entire scenario the highest proportion is seen high (25%) in scenario spring without toilet, and the lowest (9%) is seen in scenario tap water with toilet. Mean number of days suffered from diarrheal disease and no of episodes was high with scenario having spring water without toilet viz. 7.61 days and 2.03 respectively, and lowest diarrheal episodes was found in scenario having tap water with toilet (1.23). Hygiene and sanitation practice of the community people was found good in all the scenario with more than 90 per cent responding that they wash hand after defecation and before eating food. Most of the people do not make any treatment of water for drinking purpose, only very few percentages of respondents said that they treat water at household before consumption. Years lived with disability was found to be highest, 18.10 per hundred thousand in the scenario spring water without toilet, and least value of Years lived with disability was computed 2.39 in the situation of tap water with toilet facility available. Premature Mortality (YLLs) was not revealed in study sample from the selected communities. While the odds of risk of acquiring diarrheal disease for the scenario (spring without toilet) was nearly four times higher than the reference scenario- tap water with toilet facility which was statistically significant as well.

**Conclusions**

Disease burden and risk of the disease is seen high among those people who don’t have toilet and consume water from spring or tube well. Appropriate awareness program targeted to high diarrheal disease burden areas should be conducted henceforth to cut short the diarrheal disease transmission and prevent the risk of acquiring it.

**Keywords:** diarrheal disease; disease burden; water and sanitation.