# A Study on Socio-economic Determinants and Economic Burden of Japanese Encephalitis in Kailali district of Nepal

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**Background**

Japanese encephalitis is emerging as a serious public health problem in Nepal. The diagnosis and treatment of the JE patient has financial consequences to the society.

**Methods**

The study was based on primary as well as secondary sources. However, the study relied mainly on primary data. For primary data, 60 households with Japanese encephalitis patients, 30 male and 30 female, were randomly selected from the list of Japanese encephalitis patients from the hospital records. Pre-designed, pre-tested questionnaires were administered, to collect quantitative information from the sampled household. Focus group discussion with health personnel, Japanese encephalitis patients, caretakers and key informants were also conducted to obtain in-depth information. Simple statistical tools such as averages, standard deviations, correlations between variables to explain the nature of relationship and test of significance have been used. Disability Adjusted Life Years calculation has been made using the formula outlined by Murray.

**Results**

The direct cost which was the out of pocket cost of Japanese encephalitis treatment involved medical cost, transportation cost, and food expenses. The average total direct cost was Rs. 5281 per patient. A positive relationship (r =» 0.24) between food expenses and per capita income was observed. The average total time loss of the household (both patients and caretakers) was 90 person days. The average total resource cost was Rs. 10613 which was almost 15 percent of the average annual income. Of the total Japanese encephalitis household, 88 percent had borrowed loans for Japanese encephalitis treatment and the maximum amount borrowed was Rs. 9000. The total Disability Adjusted Life Years lost was 493.92. The study estimated a Disability Adjusted Life Years of 365.70 reduced as a result of treatment provided by local health system. The study while analyzing the determinants of Japanese encephalitis identified several risk factors as environmental factors, occupational factors, level of income (poverty) factors, knowledge and behavioral factors and cultural factors.

**Conclusions**

Japanese encephalitis is a rural based disease and a disease of the poor. It imposes multidimensional impact such as economic burden on the household, burden on the local health system, burden on society and increase in the marginal poor. Japanese encephalitis had an impact not only on the income but on the sources of income as well which effected their future income flow and prospects of a better future.

**Keywords:** determinants; disability adjusted life years; economic burden; Japanese encephalitis; risk factors.