

**COST-EFFECTIVENESS OF EARLY CASE DETECTION
FOR VISCERAL LEISHMANIASIS IN NEPAL**



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for the Degree of Master of Science in Health Economics**

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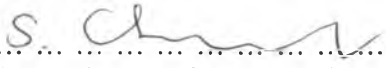
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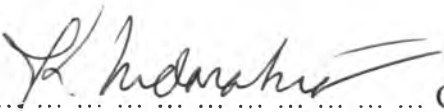
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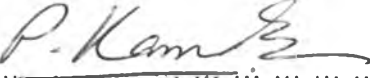
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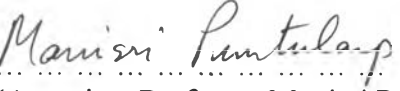
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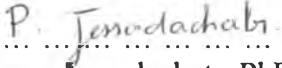
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In Nepal, approximately 5.5 million people are at risk of infection from visceral leishmaniasis (VL), a disease if untreated is lethal in 100 per cent of cases with developed signs and symptoms. This study assessed the cost-effectiveness of early case detection for VL in Siraha district of Nepal. Two kinds of alternative programs were studied: 1) outreach case detection, which used k39 dipstick as diagnostic test and 2) health facility based detection, which used bone marrow aspiration for detection of VL. The evaluation period was 1998-99, and the study was carried out from providers' and patients' viewpoint.

A cost-effectiveness analysis (CEA) model was used to assess the efficiency of these two programs. Data on providers' costs were collected from Siraha District Hospital and Kala-azar Project, which respectively represented health facility based and outreach detection program. Patients' costs were assessed by interviewing a sample of 50 VL cases detected by these two programs in the year 1998-99. Outcomes were expressed in terms of number of cases detected and with some assumptions, this was converted to number of deaths averted.

The study shows that outreach program detected 40.9 cases per 100,000 population at risk while health facility based program detected 34.1 cases. The cost per case detected in outreach program was USD 124 and in health facility based program it was USD 191. The outreach and health facility based program incurred USD 131 and 200 respectively for an aversion of one death. Median costs to patients in outreach program was found to be USD 25 while it was six times higher in health facility based program (USD 146), of which indirect costs due to absence from work accounted for more than half in both programs.

In conclusion, the results indicate that it is worthwhile to invest in outreach program for early VL case detection from both providers' and patients' perspectives. Since outreach program can not replace the existing health facility based program under the current health care delivery system, it is recommended that outreach program be added to the health facility. In such a case, it would help to reduce patients' burden of disease substantially and the health care delivery could also be more efficient and equitable.

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LIST OF ACRONYMS

CBA	:	Cost-benefit analysis
CEA	:	Cost-effectiveness analysis
CUA	:	Cost-utility analysis
DAT	:	Direct Agglutination Test
EDCD	:	Epidemiology and Disease Control Division
HMG	:	His Majesty's Government
ICER	:	Incremental cost-effectiveness ratio
IRR	:	Internal rate of return
MOH	:	Ministry of Health
NB	:	Net benefit
NPR	:	Nepalese Rupees
NPV	:	Net present value
Rs.	:	Rupees (Nepalese)
TDR	:	UNDP/World Bank/WHO Special Program for Research and Training in Tropical Diseases
USD	:	United States Dollars
VBDRTC	:	Vector Borne Disease Research and Training Center
VL	:	Visceral Leishmaniasis