

**A STUDY ON SOIL TRANSMITTED
HELMINTHIASIS IN KATHMANDU
VALLEY**

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KIRTIPUR, KATHMANDU
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**A STUDY ON SOIL TRANSMITTED
HELMINTHIASIS IN KATHMANDU
VALLEY**

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BY
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2006

RECOMMENDATION

This is to certify that **Ms. Arina Shrestha** has completed this dissertation work entitled “**A STUDY ON SOIL TRANSMITTED HELMINTHIASIS IN KATHMANDU VALLEY**” as a partial fulfillment of M. Sc. Degree in Microbiology. To our knowledge this thesis work has not been submitted for any other degree.

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ABSTRACT

The study was done in soil and stool samples collected during the period of August 2005 to July 2006 in Kathmandu Valley. 200 soil samples and 1504 stool samples (188 school children and 1316 patients) were collected. The samples were examined using flotation technique, formal-ether sedimentation technique and direct smear technique.

Overall 28.5% of soil samples were found to be contaminated with eggs and larvae of helminth parasites. *Ascaris lumbricoides* (56.1%) was found to be the most predominant soil transmitted helminth parasite in soil. The prevalence of parasites was found higher in wet season (June-September) (30.0%) than that in dry season (November-April) (25.5%) ($P>0.05$).

In school children, the overall prevalence rate of parasitic infections was 48.4%, helminth parasitic infections being dominant. *Trichuris trichiura* (53.7%) was most frequently detected parasite. The prevalence of parasitic infections among female was higher (51.7%) compare to male (45.5%) ($P>0.05$). Dalits (88.9%) were highly infected with parasites than counter social groups like Tibeto-Burmans (48.5%) and Indo-Aryans (37.3%) ($P<0.05$). The children from farming family had higher prevalence rate (71.4%) ($P<0.05$). Parasitic infection rate was found significantly lower (40.9%) among children who had taken antihelminthic drugs within last 6 months compared to children who had not (57.8%) ($P<0.05$). The children studying in private school had significantly lower (33.9%) parasitic infestations than those studying in public school (67.0%) ($P<0.05$).

In the hospital patients, the prevalence of parasitic infections was found to be 30.0%, *Entamoeba histolytica* (38.3%) being the commonest. Among helminth parasites, *A. lumbricoides* (3.3%) was frequently detected. Protozoan parasites were dominant in hospital patients. The female patients were more infected (34.0%) than male patients (27.5%) ($P<0.05$).

Key words: Soil-transmitted helminthes, soil, intestinal parasites, infestation, Kathmandu.

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LIST OF ABBREVIATIONS

STH	Soil Transmitted Helminthes
<i>A. lumbricoides</i>	<i>Ascaris lumbricoides</i>
<i>T. trichiura</i>	<i>Trichuris trichiura</i>
<i>S. stercoralis</i>	<i>Strongyloides stercoralis</i>
<i>H. nana</i>	<i>Hymenolepis nana</i>
<i>H. diminuta</i>	<i>Hymenolepis diminuta</i>
<i>E. histolytica</i>	<i>Entamoeba histolytica</i>
<i>E. coli</i>	<i>Entamoeba coli</i>
<i>I. butschlii</i>	<i>Idamoeba butschlii</i>
<i>C. mesnili</i>	<i>Chilomastix mesnili</i>
<i>E. nana</i>	<i>Endolimax nana</i>
<i>E. hartmani</i>	<i>Entamoeba hartmani</i>
<i>B. hominis</i>	<i>Blastocystis hominis</i>
<i>T. hominis</i>	<i>Trichomonas hominis</i>
VDC	Village Development Committee
WHO	World Health Organization
JOICE	Japanese Organization for International Co-operation in Family Planning
NPC	National Planning Commission
NVAP	Nepal National Vitamin A Program
NITMPHR	National Institute of Tropical Medicine and Public Health Research

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