

PREVALENCE OF INTESTINAL PARASITIC
INFECTIONS, RELATED RISK FACTORS AND
POSSIBLE IMPACT ON NUTRITIONAL STATUS
AMONG PRIVATE SCHOOL CHILDREN IN
KATHMANDU

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(Medical)

by

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RECOMMENDATION

This is to certify that Mr. Suman Maharjan has completed this dissertation entitled “PREVALENCE OF INTESTINAL PARASITIC INFECTIONS, RELATED RISK FACTORS AND POSSIBLE IMPACT ON NUTRITIONAL STATUS AMONG PRIVATE SCHOOL CHILDREN IN KATHMANDU” as a partial fulfillment of the requirements of M.Sc. degree in Microbiology (Medical) under our supervision. To our knowledge this work has not been submitted for any other degree.

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ABSTRACT

The present study was conducted among the primary level school children of four private schools of Kathmandu, Nepal to determine the prevalence of intestinal parasitic infections, possible pre-disposing factors as well as its impact on the nutritional status of the school children. This cross sectional study was conducted from July to November, 2014. A total of 329 stool and blood samples were collected and brought to the laboratory of Shi-Gan International College of Science and Technology (SICOST). Anthropometric data were collected and questionnaire related to their personal hygiene, socio-economic condition were done. Stool samples were processed for microscopy by using formal-ether concentration technique. Hemoglobin was estimated by cyanmethemoglobin method. Statistical analysis was done by using SPSS 16.0.

The overall prevalence of intestinal parasitic infection was 17.9% (59/329). Protozoan parasites were dominant (47.5%) over helminthes (22.0%). Altogether eight species of parasites were detected in the study. *Giardia intestinalis* (29.9%) was the most common protozoan parasite detected whereas *Trichuris trichiura* (24.7%) topped among the list of helminthes.

The prevalence of intestinal parasitic infection was slightly higher among boys (18.6%) than girls (17.1%) ($p=0.732$). Similarly, the prevalence was significantly higher among the children belonging to age group 6-10 years ($p=0.000$). No statistically significant association was observed with respect to parents' literacy, nail trimming, hand washing with soap before eating and after toilet, use of antihelminthic drug, source of drinking water and treatment of drinking water. A total of 41.0%, 29.0% and 11.0% children were found to be stunted, underweight and wasted respectively. Similarly, about 20.5% of the children were anemic without significant association between the parasitic infections. The results indicate the need of periodic deworming programmes, health education and improvement of sanitation and hygienic practices in private schools.

Key words: Intestinal parasitic infection, school children, risk factors, nutritional status, Kathmandu.

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Appendix B: Questionnaire and Report form

LIST OF ABBREVIATIONS

BMI	Body Mass Index
BMIZ	BMI-for-age z-score
CLSI	Clinical and Laboratory Standards Institute
ELISA	Enzyme-Linked Immunosorbent Assay
HAZ	Height-for-age z-score
IRB	Institutional Review Board
LDC	Least Developed Country
MoHP	Ministry of Health and Population
NDHS	Nepal Demographic and Health Survey
NITMPHR	National Institute of Tropical Medicine and Public Health Research
OD	Optical Density
PC	Preventive Chemotherapy
PCR	Polymerase Chain Reaction
SD	Standard Deviation
SICOST	Shi-Gan International College of Science and Technology
SPSS	Statistical Program for Social Sciences
STH	Soil Transmitted Helminthes
US	United States
WAZ	Weight-for-age z score
WHO	World Health Organization
WHZ	Weight-for-height z-score