

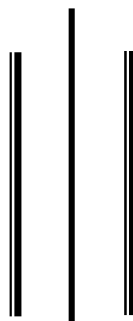
AN INTEGRATED APPROACH TO THE CONTROL AND PREVENTION OF INTESTINAL PARASITIC INFECTION



**A THESIS
SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS
FOR
THE DEGREE OF MASTER IN SCIENCE
(ZOOLOGY)**



**BY
MEENU SHAKYA**



TO

**THE CENTRAL DEPARTMENT OF ZOOLOGY
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RECOMMENDATION

It is my pleasure to mention here that Meenu Shakya has carried out the thesis work entitled “**AN INTEGRATED APPROACH TO THE CONTROL AND PREVENTION OF INTESTINAL PARASITIC INFECTION**” under my supervision and guidance. It is her original work and brings out useful results and findings in the concerned field.

I strongly recommend this thesis for approval for the partial fulfillment of the requirements for the Master’s Degree of Science in Zoology with special paper **Parasitology**.

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APPROVAL

This thesis presented by Meenu Shakya entitled “AN INTEGRATED APPROACH TO THE CONTROL AND PREVENTION OF INTESTINAL PARASITIC INFECTION” has been approved for partial fulfillment of the requirements for the Master’s Degree of Science in Zoology with special paper **Parasitology**.

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LETTER OF APPROVAL

On the recommendation of supervisor **Dr. Ranjana Gupta**, the thesis of **Meenu Shakya** is approved for Examination, and submitted to the Tribhuvan University in partial fulfillment of the requirements for M. Sc. Degree in Zoology with special paper **Parasitology**.

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ABSTRACT

Parasitic infection to human has been found increasing and recognized as an important public health problem in Chovar area of Kirtipur Municipality. A community based study on intestinal parasites was carried out in ward no. 13 and 14. A household survey was carried out to determine knowledge, attitude and practice regarding intestinal parasites by means of structural questionnaire in children of age group of 3-12 years in 2006. A total of 179 stool samples were collected and examined by fecal smear method. Among them 40.78% were found infected by different kinds of intestinal parasites. Among the positive samples prevalence rate in male children was 54.79% and 45.21% in female children. There was no significant difference in prevalence in two sexes. The prevalence of *Ascaris lumbricoides* was found to be 50.82%, *Trichuris trichiura* 9.83%, Hookworm 4.91% and *Strongyloide stercoralis* 8.33% in helminthes while *Giardia lamblia* 22.95%, *Entamoeba histolytica* 9.83% and *Cyclospora* sp. 1.64% in protozoan parasites. Out of 73 positive samples 83.56% were found with prevalence of single species infection where *Ascaris lumbricoides* and *Giardia lamblia* were found to be most dominant helminthes and protozoan parasites respectively. Similarly, 16.43% were found with prevalence of double species infection but no triple or further multiple infections was found. Regarding the age group, high prevalence was found in 9-10 years age (69.56%) in male children where as 10-12 years age-group in female children (36.36%). There was no significant difference in prevalence in different age groups ($\chi^2=10.02$, $P>0.05$). In case of ethnic group, the prevalence in children of Newar community was found to be high with 51% infection rate while 30.64% in Chhetri and 17.64% in Brahmin.

The finding of survey study revealed that 179 children, higher prevalence was noted from non-vegetarians (44.09%) than that of vegetarians (11.11%). There was significant difference in prevalence in relation to food habit. The prevalence of intestinal parasites was found highest (66.67%) among them who defecate at open places, drink direct tap water (89.04%), do not cut nails regularly (100%) and do not wash hands with soap water before eating food and after playing outdoor games (90.47%). The survey had shown that 64.24% households contain domestic birds/animals and there was significant difference in prevalence on the basis of types of domestic birds/animals with them ($\chi^2=30.32$, $P<0.05$). Only a few used to examine the stool and take anti-helminthes drugs at certain interval of time. The survey had shown that the high prevalence of intestinal parasites was found in those respondents who believe in traditional methods of treatment for abdominal discomforts (77.78%). The survey had also shown that very few respondents know about medicinal plants used against intestinal parasitic diseases and there was no significant difference in prevalence on the basis of knowledge about medicinal plants ($\chi^2=9.96$, $P<0.05$).

CONTENT

RECOMMENDATION	
APPROVAL	
ACKNOWLEDGEMENT	
LETTER OF APPROVAL	
CONTENTS	
LIST OF TABLES	
LIST OF FIGURES	
LIST OF PLATES	
ABSTRACT	
INTRODUCTION	13
OBJECTIVES	17
LITERATURE REVIEW	18-33
HISTORY OF PARASITOLOGY	18
LITERATURE REVIEW IN CONTEXT OF WORLD	19
LITERATURE REVIEW IN NEPAL CONTEXT	27
MATERIALS AND METHODS	34-44
METHODS	39
LABORATORY WORKS	41
RESULTS	47-68
General Prevalence of Intestinal Parasites	47
Age and Sex-wise Prevalence of Intestinal Parasites	49
Sex-wise Prevalence of Single Species of Intestinal Parasitic Infection	50
Sex-wise Prevalence of Single Species of Intestinal Parasitic Infection	51
Ethnic-wise Prevalence of Intestinal Parasites	52
Prevalence of Intestinal Parasite in Relation to Food Habit	53
Respondent's View Regarding KAP of Worm Infection	54
Ways of Defecation	55
Types of Drinking Water	56
Methods of Cleaning Vegetables and Fruits	57
Methods of Cleaning Hands	58
Conditions for Cleaning Hands	59
Habit of Cutting Nails	60
Types of Domestic Animals with the Respondents	61
Food Habit (Meat)	62
Experience of Intestinal Parasitic Disease	63
Deworming Tablets	64
Treatment Methods	65

Knowledge About Medicine (Plant Products)	66
Different Types of Plant Products Used as Medicine Against Intestinal Discomfort According to Respondents	67
DISCUSSION AND CONCLUSION	69-74
RECOMMENDATIONS	75
REFERENCES	76-84
ANNEX-1 : INTRODUCTION OF INTESTINAL PARASITE	85-94
ANNEX-2 : QUESTIONNAIRE	95-96
ANNEX-3 : SECONDARY DATA	97-99
ANNEX-4 : TREATMENT	100
ANNEX-5 : LIST OF MEDICINAL PLANTS	101-102

LIST OF TABLES

	Page	
Table : 1	General Prevalence of Intestinal Parasites	47
Table : 2	Age and Sex-wise Prevalence of Intestinal Parasites	49
Table : 3A	Sex-wise Prevalence of Single Species of Intestinal Parasitic Infection	50
Table : 3B	Sex-wise Prevalence of Single Species of Intestinal Parasitic Infection	51
Table : 4	Ethnic-wise Prevalence of Intestinal Parasites	52
Table : 5	Prevalence of Intestinal Parasite in Relation to Food Habit	53
Table : 6	Respondent's View Regarding KAP of Worm Infection	54
Table : 7	Ways of Defecation	55
Table : 8	Types of Drinking Water	56
Table : 9	Methods of Cleaning Vegetables and Fruits	57
Table : 10	Methods of Cleaning Hands	58
Table : 11	Conditions for Cleaning Hands	59
Table : 12	Habit of Cutting Nails	60
Table : 13	Types of Domestic Animals with the Respondents	61
Table : 14	Food Habit (Meat)	62
Table : 15	Experience of Intestinal Parasitic Disease	63
Table : 16	Deworming Tablets	64
Table : 17	Treatment Methods	65
Table : 18	Knowledge About Medicine (Plant Products)	66
Table : 19	Different Types of Plant Products Used as Medicine Against Intestinal Discomfort According to Respondents	67

LIST OF FIGURES

	Page	
Figure : 1	General Prevalence of Intestinal Parasites	48
Figure : 2	Sex-wise Prevalence of Intestinal Parasites	48
Figure : 3	Age and Sex-wise Prevalence of Intestinal Parasites	49
Figure : 4	Prevalence of Single Species Intestinal Parasites	50
Figure : 5	Prevalence of Double Species Intestinal Parasites	51
Figure : 6	Ethnic-wise Prevalence of Intestinal Parasites	52
Figure : 7	Prevalence of intestinal Parasites in relation to Food Habits	53
Figure : 8	Prevalence of intestinal Parasitic Infection According to KAP towards Worm Infections	54
Figure : 9	Prevalence According to Way of Defecation	55
Figure : 10	Prevalence According to Types of Drinking Water	56
Figure : 11	Prevalence According to Methods of Cleaning Vegetables and Fruits	57
Figure : 12	Prevalence According to Methods of Cleaning Hands	58
Figure : 13	Prevalence According to Conditions for Cleaning Hands	59
Figure : 14	Prevalence According to Habit of Cutting Nails	60
Figure : 15	Prevalence According to Domestic Animals with Respondents	61
Figure : 16	Prevalence According to Food Habit (Meat)	62
Figure : 17	Prevalence According to Experiences of Intestinal Parasitic Diseases	63
Figure : 18	Prevalence on the Basis of Consumption of Deworming Tablets in Previous Time	64
Figure : 19	Prevalence According to Treatment Methods	65
Figure : 20	Prevalence According to Knowledge about Medicine (Plant Products)	66

LIST OF PLATE

	Page	
Plate : 1	Temporary Toilet (Pit hole) in Chobhar Area	37
Plate : 2	Stool Sample Collection	37
Plate : 3	Arrangement of Questionnaire	37
Plate : 4	Stool Examination	37
Plate : 5	Examination of Symptomatic Respondent	37
Plate : 6	Medicine Distribution	37
Plate : 7	Pamphlet Displayed before Sample Collection	38
		38
Plate : 8	Result Displayed during Medicine Distribution	
Plate : 9	Poster Displayed during Awareness Programme	38
Plate : 10	Gathering of Children during Awareness Programme	38
Plate : 11	Poster Displayed during Awareness Programme	38
Plate : 12	Trophozoite of <i>G. lamblia</i>	45
Plate : 13	Cyst of <i>G. lamblia</i>	45
Plate : 14	Cyst of <i>E. histolytica</i>	45
Plate : 15	Oocyst of <i>Cyclospora</i>	45
Plate : 16	Unfertilized Egg of <i>Ascaris</i>	45
Plate : 17	Fertilized egg of <i>Ascaris</i>	45
Plate : 18	Egg of <i>A. duodenale</i>	46
Plate : 19	Larva of <i>A. duodenale</i>	46
Plate : 20	Egg of <i>Trichuris</i>	46
Plate : 21	Larva of <i>Strongyloides</i>	46

ABBREVIATIONS AND ACRONYMS

CBS	:	Central Bureau of Statistics
CDZ	:	Central Department of Zoology
cm	:	Centimeter
FPA	:	Family Planning Association
gm	:	Gram
ICIMOD	:	International Centre for Integrated Mountain Development
IFPPCP	:	Integrated Family Planning and Parasite Control Project
inf.	:	Infection
KAP	:	Knowledge, Attitude and Practices
mg	:	Milligram
ml	:	milliliter
mm	:	Millimeter
nm	:	Nanometer
rpm	:	rounds per minute
sp.	:	Species
T.U.	:	Tribhuvan University
VDC	:	Village Development Committee
WHO	:	World Health Organization
µm	:	Micrometer