INTESTINAL PARASITIC ASSOCIATION WITH ANAEMIA IN PREGNANT WOMEN ATTENDING ANTENATAL CLINIC AT TRIBHUVAN UNIVERSITY TEACHING HOSPITAL

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Batch: 2068/69

A thesis submitted in partial fulfillment of the requirement for the award of the degree of Masters of Science in Zoology with special paper Parasitology

Submitted to

Central Department of Zoology

Institute of Science & Technology

Tribhuvan University

Kirtipur, Kathmandu

Nepal

December, 2015

DECLARATION

I hereby declare that the work presented in this thesis has been done by myself and has not been submitted elsewhere for the award of any degree. All sources of information have been specifically acknowledged by reference to the author(s) or institution(s).

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RECOMMENDATION

This is to recommend that the thesis entitled "**INTESTINAL PARASITIC ASSOCIATION WITH ANAEMIA IN PREGNANT WOMEN ATTENDING ANTENATAL CLINIC AT TRIBHUVAN UNIVERSITY TEACHING HOSPITAL**" has been carried out by Laxmi Sapkota for the partial fulfillment of Master's Degree of Science in Zoology with special paper Parasitology. This is her original work and has been carried out under my supervision. To the best of my knowledge, this thesis work has not been submitted for any other degree in any institutions.

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LETTER OF APPROVAL

On the recommendation of supervisor **"Dr. Mahendra Maharjan"** this thesis submitted by Laxmi Sapkota entitled **"INTESTINAL PARASITIC ASSOCIATION WITH ANAEMIA IN PREGNANT WOMEN ATTENDING ANTENATAL CLINIC AT TRIBHUVAN UNIVERSITY TEACHING HOSPITAL"** is approved for the examination and submitted to the Tribhuvan University in partial fulfillment of the requirements for Master's Degree of Science in Zoology with special paper Parasitology.

Date: ……. **…….**

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CERTIFICATE OF ACCEPTANCE

This thesis work submitted by Laxmi Sapkota entitled **" INTESTINAL PARASITIC ASSOCIATION WITH ANAEMIA IN PREGNANT WOMEN ATTENDING ANTENATAL CLINIC AT TRIBHUVAN UNIVERSITY TEACHING HOSPITAL"** has been approved as a partial fulfillment for the requirements of Master's Degree of Science in Zoology with special paper Parasitology.

EVALUATION COMMITTEE

…….	……
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ACKNOWLEDGEMENT

I would like to express my since gratitude to my supervisor Dr. Mahendra Maharjan, Central Department of Zoology, Tribhuvan University for his supervision, guidance and invaluable suggestion throughout my study. I am grateful to Pro. Dr. Ranjana Gupta, the Head of Central Department of Zoology for her kind co-operation and support.

My Sincere thanks go to all the staffs of Central Department of Zoology.

I am also thankful all staff of Gynecology Department of Tribhuvan University, Teaching Hospital, especially to Nurse Kalpana Thapaliya and worker Nanu Sapkota for supporting during the sample collection in the study period.

I am also grateful to my husband Mr. Kamal Dhakal for his warm support and inspiration throughout my academic career.

I want to acknowledge my friend Durga Sharma, my aunti Rosani Acharya for their kind help & co-operation during the work.

ABSTRACT

Anaemia is the common problem during pregnancy in developing countries like Nepal. In order to find out the association between parasitic infection and anaemia in pregnant woman, a total of 200 fresh stool samples and their haemoglobin level data were collected from the pregnant women visiting TUTH. Stool samples were examined by using direct smear technique. The overall prevalence of intestinal parasitic infection and anaemic rate among pregnant women was found to be 35% and 50% respectively. Among 100 anaemic pregnant women 58 were infected with intestinal parasites. The association of anaemia with intestinal parasitic infection was statistically significant ($P > 0.05$). The most dominant parasite among anaemic pregnant women was *A. lumbricoides* followed by *H.nana*. Total five different types of intestinal parasites were identified in this study. Among them *A. lumbricoides* 61 (30.5%), *H. nana* 6 (3%), *E. histolytica* 5 (2.5%), *T. trichiura* 2 (1%) and *S. stercoralis* 2 (1%) respectively. Pregnant women with single parasitic infection were found to be 64 (32%) and multiple infection were 6 (3%). Intensity of parasitic infection found to be 17 (8.8%), 34 (17.0%) and 17 (9.5%) for light, moderate and heavy infection. Hand washing behaviour & working in field were significantly associated with IPI & anaemia, whereas use of open source of water and house sharing with domestic or pet animals was also found significantly associated with IPI. In conclusion, among five species of intestinal parasites *A. lumbricoides* was found to be associated with anaemia along with personal hygiene and sanitation as the major risk factors.

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LIST OF ABBREVIATIONS

Abbreviated form	Details of Abbreviations
ANC	Antenatal Care
CDZ	Central Department of zoology
et al.	and his associates
Gm/dl	Grams per Deciliter
Hb	Haemoglobin
IPI	Intestinal Parasitic Infection
NMCTH	Nepal Medical College Teaching Hospital
LBW	Low Birth Weight
P-value	Probability Value
RBC	Red Blood Cell
STH	Soil Transmitted Helminths
SPSS	Statistical Package for Social Science
WHO	World Health Organization
UNICEF	United Nations Children's Fund
TUTH	Tribhuvan University Teaching Hospital
JICA	Japan International Cooperation Agency
IUGR	Intra Uterine Growth Retardation