SERO-PREVALENCE OF *Toxoplasma gondii* IN PIGS AND PREGNANT WOMEN OF BHAKTAPUR DISTRICT

Alina Prajapati

T.U. Reg. No. 5-2-20-467-2006

Symbol No. 13089

Batch: 2066/2067

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

Submitted to

Central Department of Zoology

Institute of Science and Technology

Tribhuvan University

Kirtipur, Kathmandu

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RECOMMENDATIONS

This is to recommend that the thesis entitled "**SERO-PREVALENCE OF *Toxoplasma gondii* IN PIGS AND PREGNANT WOMEN OF BHAKTAPPUR DISTRICT**" has been carried out by Alina Prajapati 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 our supervision. To the best of our knowledge, this thesis work has not been submitted for any other degree in any institutions.

Date …….

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Prof. Dr. Ranjana Gupta
Head and Supervisor
Central Department of Zoology
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Kirtipur, Kathmandu, Nepal

Date ……..

…….

Dr. Dhan Raj Ratala
Co-supervisor
National Zoonoses and Food Hygiene Research Centre
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LETTER OF APPROVAL

On the recommendation of supervisor, this thesis submitted by Alina Prajapati entitled "**SERO-PREVALNECE OF *Toxoplasma gondii* IN PIGS AND PREGNANT WOMEN OF BHAKTAPUR DISTRICT**" 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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Prof. Dr. Ranjana Gupta

Head of Department

Central Department of Zoology

Tribhuvan University

Kirtipur, Kathmandu, Nepal

CERTIFICATE OF ACCEPTANCE

This thesis work submitted by Alina Prajapati entitled "**SERO-PREVALENCE OF *Toxoplasma gondii* IN PIGS AND PREGNANT WOMEN OF BHAKTAPUR DISTRICT**" has been accepted 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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……. ……
External Examiner Internal Examiner

Date of Examination: ……..

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 authors and institutions.

Date……..

……..
Alina Prajapati

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……..

Alina Prajapati

ABSRTACT

Toxoplasmosis is one of the medically and veterinary important disease caused by an obligate intracellular protozoan parasite *Toxoplasma gondii*. There is scarce information about the epidemiology of *T. gondii* infection in pregnant women and pigs in Bhaktapur districts. Therefore, this study aimed at determining the seroprevalence of *T. gondii* among pigs and pregnant women in Bhaktapur district. A total of 91 blood samples, 41 from farmed pig (3rd June 2012 to 6th June 2012) and 50 from pregnant women (10th July 2012 to 26th July 2012) seeking prenatal check up in Bhaktapur Hospital were collected. After a questionnaire applied to the pregnant women and pig farmers, all the collected specimens were tested for IgG anti-*T. gondii* antibodies by enzyme-linked immunosorbent assay (ELISA). The overall seroprevalence of anti-*T. gondii* antibody in the study area was 22% among pregnant women whereas seroprevalence in sampled pigs blood was observed null during study period. The present percentage of prevalence rate in pregnant women is low as compared with those reported in other region of Nepal. No significant relations were observed between anti-*T. gondii* IgG antibodies and any of the possible risk factors viz, cat ownership, playing habit with cats, working in garden, raw and pork meat consumption, drinking untreated water, age group, level of education and occupation during study period.

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LIST OF ABBREVIATIONS

Abbreviated form	Details of abbreviations
AIDS	Acquired Immunodeficiency Syndrome
BOH	Bad Obstetric History
CDC	Centers for Disease Control
CNS	Central Nervous System
CMV	Cytomegalovirus
DT	Dye test
DNA	Deoxyribo nucleic acid
EFSA	European Food Safety Authority
ELISA	Enzyme Linked Immunosorbent Assay
GDP	Gross Domestic Product
HIV	Human Immuno-deficiency Syndrome
HSV	Herpes simplex virus
IFA	Indirect fluorescent antibody
IgG	Immunoglobulin G
IHAT	Indirect hemagglutination test
IU	International Unit
LAT	Latex agglutination test
MAT	Modified agglutination test
MLA	Microlatex agglutination
NZFHRC	National Zoonoses and Food Hygiene Research Centre
OD	Optical Density
PCR	Polymerase chain reaction
TORCH	*Toxoplasma gondii*, rubella virus, cytomegalovirus and Herpes simplex virus
VDC	Village Development Committee
VIDAS	Vitek Immuno Diagnostic Assay System