



UNIVERSITI PUTRA MALAYSIA

***PREVALENCE OF GASTROINTESTINAL NEMATODE AMONG
HORSES FROM VARIOUS ESTABLISHMENTS***

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FPV 2017 10

**PREVALENCE OF GASTROINTESTINAL NEMATODE
AMONG HORSES FROM VARIOUS
ESTABLISHMENTS**

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A project submitted to the
Faculty of Veterinary Medicine, Universiti Putra Malaysia

In partial fulfilment of the requirement for the
DEGREE OF DOCTOR OF VETERINARY MEDICINE

Universiti Putra Malaysia
Serdang, Selangor DarulEhsan

MARCH 2017

It is hereby certified that we have read this project paper entitled “Prevalence of Gastrointestinal Nematodes among Horses from Various Establishments”, by Uma Devi Periyasamy and in our opinion it is satisfactory in terms of scope, quality, and presentation as partial fulfilment of the requirement for the course VPD 4999 – Final Year Project

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DEDICATION

This project dedicated to
all veterinarians and future veterinarians,
my family and DVM 2017.



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ACKNOWLEDGEMENTS

I would like to express my gratitude to my supervisor, Dr Noraniza Mohd Adzahan for all her guidance, help and attention while helping with this project.

I would like to acknowledge my co-supervisor, Dr. Nur Mahiza Md Isa for guiding me with all the laboratory work and for all motivations that she have given to me.

My special gratitudes towards Dr. Dasarathurao Seeta Ramaiah and Dr. Noorashimah Roslim who helped me in making arrangements with all the establishments. Not forgetting the lab assistants, Mrs Maizatul Akmal Mokhtar, and and post graduate student, Ms Ruviniya for being patiently answering all my questions and guiding me all this while. Millions of thanks for them.

Special thanks for my family for the financial and moral supports. Not forgettting my friends who helped me both physically and mentally throughout the final year project.

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ABBREVIATIONS

AAEP	American Association of Equine Parasitology
EPG	egg per gram
ERP	egg reappearance period
FEC	faecal egg count
FECRT	fecal egg count reduction test
GIN	gastrointestinal nematode
L3	larvae stage three
n	sample size

ABSTRAK

Abstrak daripada kertas projek yang dikemukakan kepada Fakulti Perubatan Veterinar untuk memenuhi sebahagian daripada kursus VPD 4999 - Projek Ilmiah Tahun Akhir.

KELAZIMANNEMATOD GASTROUSUS DALAM KUDA BAWAH AMALAN PENGURUSAN YANG BERLAINAN

Oleh

Uma Devi Periyasamy

2017

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Satu kajian telah dijalankan untuk menentukan kelaziman dan mengenal pasti jenis nematod gastrousus (GIN) kuda dari pelbagai premis kuda. Sebanyak 100 ekor kuda yang dipilih dari pelbagai premis. Sampel najis segar telah dikumpulkan untuk kiraan telur cacing (FEC) menggunakan teknik McMaster. Sampel positif diternak untuk menentukan genus nematod terlibat. Prevalens keseluruhan adalah 38% untuk GIN dan paling kerap strongyle. Premis, umur, rejim penyahcacingan dan jenis ubat cacing merupakan faktor-faktor yang mempengaruhi kelaziman GIN dalam kuda dalam kajian ini. Spesies GIN dikenal pasti termasuk *Trichonema spp.* (53%), *Ascaris sp.* (5%), *Tricostrongylus sp.* (21%), *Strongyloides sp.* (12%), *Strongylus*

sp.(2%) dan *Poteriostomum sp.* (2%). Kuda dewasa berumur antara 16-20 tahun adalah yang paling terjejas dengan GIN. Kuda dirawat dengan program rawatan cacing yang tidak teratur dan dengan oxfendazole sebelum kajian itu sangat dijangkiti GIN. Kajian ini menjadi amat penting untuk menambah pengetahuan yang sedia ada epidemiologi GIN bawah pengurusan tempatan dan keadaan iklim.

Kata kunci:Nematod gastrousus, genus, kuda,Mcmaster, pengawalan cacing, pengkulturan najis.



ABSTRACT

An abstract of the project paper presented to the Faculty of Veterinary Medicine in partial fulfilment of the course VPD 4999- Final Year Project.

PREVALENCE OF GASTROINTESTINAL NEMATODES AMONG HORSES FROM VARIOUS ESTABLISHMENTS

By

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2017

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A study was carried out to determine the prevalence and to identify the types of gastrointestinal nematode (GIN) of horses from various establishment. A total of 100 horses selected from various establishment. Fresh faecal samples were collected for McMaster for faecal egg count (FEC). Positive samples were cultured to determine the genus of the nematodes. The overall prevalence was 38% for GIN and most frequently strongyle. Establishment, age, deworming regime and dewormer were factors that influenced the prevalence of GIN in horse in the present study. GIN species identified included *Trichonema spp.* (53%), *Ascaris sp.* (5%), *Tricostrongylus sp.* (21%), *Strongyloides sp.* (12%), *Strongylus sp.* (2%) and *Poteriostomum sp.* (2%). Adult horses aged 16-20 years old are the most affected with GIN. Horses treated with irregular deworming program and with oxfendazole prior to the study were highly infected with GIN. The present study will initially be of great significance to add the existing knowledge of the epidemiology of GIN under local management and climatic condition.

Keywords: Anthelmintic, faecal culture, gastrointestinal nematode, horses, McMaster

1. INTRODUCTION

Parasitism is the single most important impediment in successful horse rearing all over the world and many species of parasites are found to infect horses. Large and small strongyles are the significant pathogens of horses. Ascarids, thread worms, hair worms, pin worms and tapeworms are found naturally in horses (Urquhart *et al.*, 1996). *Parascaris equorum*, *Trichostrongylus axei*, *Strongylus equinus*, the Cyathostominae, *Oxyuris equi*, *Probstmayria vivipara*, *Strongyloides westeri*, *Habronema microstoma*, *H. muscae* and *Drascheia megastoma* are the some of the parasites commonly found in equines (Foreyt, 2001).

Studies on prevalence of horse helminths in different parts of world have indicated varied prevalence under different management and parasite control systems (Capewell *et al.*, 2005). Very few studies on the occurrence of gastrointestinal parasites in horses have been carried out in Malaysia. A study on prevalence of gastrointestinal parasites in local indigenous ponies in Kelantan shown that 43.97 % of the horses are affected with gastrointestinal parasites (Mimi, 1999). In 2011, Rohanizal has conducted a field survey in stable horses in Selangor. The study shown the prevalence rate of GIN in horses was low (3.2%) and mostly by Cyathostominae *spp.* (Rohanizal, 2011).

A thorough understanding of the epidemiology of horse helminths under local management and climatic conditions will help in devising effective and economically viable parasite control programs. It is expected that this study will help

professionals in selecting more effective parasite control programs for equine horses in our climatic environment.

The objectives of this study is to:

1. determine the prevalence of GIN among the horses
2. identify the genus of nematode present
3. record the association between contributing factors (deworming program, age, sex) and GIN infection.

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