



UNIVERSITI PUTRA MALAYSIA

***PREVALENCE OF FASCIOLIASIS AMONG CATTLE AND GOATS
SLAUGHTERED
IN SHAH ALAM ABATTOIR***

FATIN FAZIRA BINTI ISMAIL

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FACULTY OF VETERINARY MEDICINE

UNIVERSITI PUTRA MALAYSIA

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**PREVALENCE OF FASCIOLIASIS AMONG CATTLE AND GOATS
SLAUGHTERED IN SHAH ALAM ABATTOIR**

FATIN FAZIRA BINTI ISMAIL

A project paper submitted to the

Faculty of Veterinary Medicine, Universiti Putra Malaysia

In partial fulfilment of the requirement for the

DOCTOR OF VETERINARY MEDICINE

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CERTIFICATION

It is hereby certified that I have read this project paper entitled “Prevalence of Fascioliasis among Cattle and Goats Slaughtered in Shah Alam Abattoir” by FatinFazirabinti Ismail and in my 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

To

Ibu and Ayah,

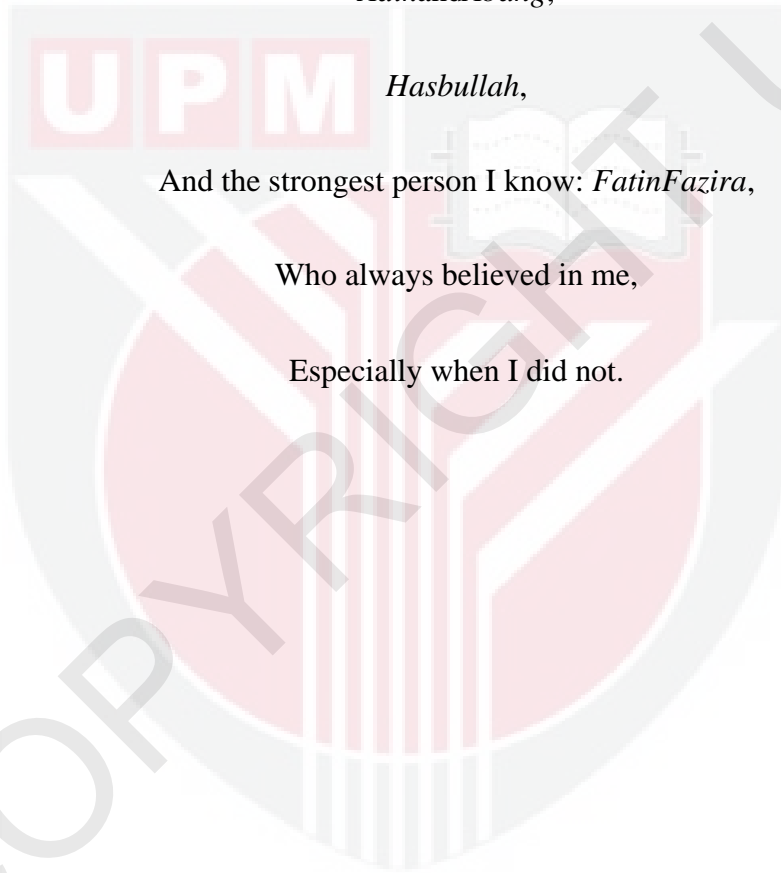
AdikandAbang,

Hasbullah,

And the strongest person I know: *FatinFazira,*

Who always believed in me,

Especially when I did not.



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Alhamdulillah,

For lending me His strength and faith throughout these Degree journey.

To my Ibu, Ayah, and family,

Thank you for showering me with your love and pray unconditionally,

You are the only reason that made me stay.

To my dear supervisor: Dr NurMahiza,

Thank you for teaching me everything you know,

You have been an inspiration to me,

Especially when I have felt like I was drowned in the sea.

To my co-supervisor, Prof Saleha and Dr Lokman,

Thank you for guiding me patiently.

To my beloved #KJcruise,

SitiAqilah, Nurhani, and Ain Mirzani,

Thank you for making our time together so much more than a paper and ink,

These last five years I will forever cherish,

From now on till the day I perish.

To DVM18,

All veterinarians,

And future veterinarians,

Thank you for reading this,

All the best.

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ABSTRAK

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

Kelaziman Fascioliasis dalam Lembu dan Kambing yang Disembelih di abatoir Shah**Alam**

Oleh

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2018

Penyelia: Dr.Nur Mahiza binti Md Isa**Penyelia bersama: Prof. Dr.Saleha binti Abdul Aziz Dr.Lokman Hakim bin Idris**

Fascioliasis dalam haiwan ternakan adalah penting dalam bidang veterinary dan kesihatan awam di mana ia menyebabkan kerugian ekonomi yang serius. Tetapi, data di peringkat rumah sembelih adalah sangat terhad. Kajian ini menyiasat kelaziman fascioliasis dalam lembu dan kambing yang disembelih di rumah penyembelihan di Shah Alam. Pensampelan mudah digunakan untuk menentukan kelaziman *Fasciola* sp. di rumah penyembelihan tersebut. Hati diperiksa untuk sebarang keabnormalan dan salur hempedu dipotong untuk melihat kehadiran cacing pipih (fluke). Daripada 80 sampel hati yang diperiksa, 1.25% (1 daripada 80 sampel) positif untuk jangkitan *Fasciolagigantica* dalam lembu dan sejumlah 25 cacing pipih hati ditemui. Tiada sampel hati kambing yang positif untuk *Fasciolasp*.

Kata kunci: Fascioliasis, ruminan, rumah penyembelihan, cacing pipih, kelaziman

ABSTRACT

An abstract of a paper presented to the Faculty of Veterinary Medicine in partial requirement for the course of VPD 4999-Project.

Prevalence of Fascioliasis in Cattle and Goats Slaughtered in Shah Alam Abattoir

By

FATIN FAZIRA BINTI ISMAIL

2018

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Co-supervisor: Prof. Dr.Saleha binti Abdul Aziz Dr.Lokman Hakim bin Idris

Fascioliasis in livestock is veterinary and public health importance causing serious economic losses. However, there are very few data on abattoir level. The present study investigated the prevalence of fascioliasis in cattle and goat slaughtered in the Shah Alam abattoir. A convenience sampling used to determine the prevalence of *Fasciola* sp. in the abattoir. Liver was examined for any abnormalities and bile ducts were incised for present of fluke. Of 80 liver samples examined, 1.25% (1 out of 80 samples) were positive for infection of *Fasciolagigantica* in cattle and a total of 25 liver flukes was present. None of goat liver samples positive for *Fasciola* sp.

Keyword: Fascioliasis, ruminant, abattoir, fluke, prevalence

1.0 INTRODUCTION

Fascioliasis is a worldwide, zoonotic disease caused by the liver trematodes *Fasciola hepatica* (*F. hepatica*) and *Fasciolagigantica* (*F. gigantica*). According to Misdraji (2010), the leaf-shaped worms, both *F. hepatica* and *F. gigantica* can reach a size of about 2 cm and may remain viable in the bile ducts for more than a decade. *Fasciola* sp. migrates to the liver parenchymal cells and develop in the bile ducts of ruminants. Fascioliasis was included on the list of important helminthiasis affecting human development at the Third Global Meeting of the Partners for Parasite Control held at the World Health Organization (WHO) Headquarters in Geneva in November 2004, with an estimated 17 million people infected and a further 180 million people at risk of infection (Anonymous, 2004). Spithillet *al.* (1998) claimed that more than 700 million domestic animals are at risk all over the world.

Fascioliasis causes important economic losses in the animal husbandry, estimated at US\$ 3 billion annually, due to reduction in meat and milk production (FAO, 1994). In Malaysia, the economic losses were estimated due to various causes of parasitism including fascioliasis in cattle and buffaloes in Peninsular Malaysia are approximately \$20 million (Khadijah *et al.*, 2017). Apart from its veterinary and economic importance throughout the world, fascioliasis recently been shown to be re-emerging and widespread zoonosis, affecting many people (Esteban *et al.*, 2003). Traditionally, WHO stated that human fascioliasis is rarely considered and reported; the estimated number of cases was less than 3000 before 1990 (Chen *et al.*, 2013).

Among the Asian countries, India, Pakistan, China, Laos, Thailand, Cambodia, as well as Malaysia have reported cases of ruminant fascioliasis with prevalence rate that range from 5% to 94% in various ruminant animals (Singh & Agarwa, 1981; Saleha, 1991; Srihakim & Pholpark, 1991; Dorny *et al.*, 2011; Chen *et al.*, 2013; Rastet *et al.*, 2015; Ullah *et al.*, 2016). To be specific, status of fascioliasis in abattoir in Malaysia varies according to geographical area and time. In cattle, the earliest study was reported from Selangor by Yap *et al.* (1983) with prevalence rate of 74%. Next, from the same district, Tham & Sheikh Omar (1981) reported 89% prevalence of bovine fascioliasis. In 1983, Loganathan & Aziz stated that prevalence rate of fascioliasis in Perak was about 42%. However, there's no study reported during 90s and early 20s. Recently, Fazly Ann (2015) mentioned that prevalence rate in Perak was about 8% and Khadijah *et al.* (2017) revealed that there was 3% prevalence of fascioliasis in Terengganu. Conversely, lack of study done on caprine fascioliasis at abattoir level in Malaysia. There was only one report by Loganathan & Aziz (1983) in the last two decades who discovered a case of fascioliasis in goat with prevalence rate of 32% in Ipoh abattoir. There remains a paucity of current data on the prevalence of fascioliasis in Malaysia. Unknown status of fascioliasis could lead to prolonged and increased infection which eventually leads to lower production and mortality (Khadijah *et al.*, 2015). Information on fascioliasis from this study will be useful to the farmers.

Aim of Research

The aim of this study is to determine and compare the prevalence of fascioliasis among cattle and goats slaughtered in Shah Alam abattoir.

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