



**UNIVERSITI PUTRA MALAYSIA**

***A SURVEY ON HEALTH PROBLEMS AND STEREOTYPIC  
BEHAVIOURS ASSOCIATED WITH MANAGEMENT OF STABLED  
HORSES***

**AHMAD NAQIB BIN ABU BAKAR**

**FPV 2017 12**

**A SURVEY ON HEALTH PROBLEMS AND  
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MANAGEMENT OF STABLED HORSES**

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**FACULTY OF VETERINARY MEDICINE  
UNIVERSITI PUTRA MALAYSIA  
SERDANG, SELANGOR**

**2017**

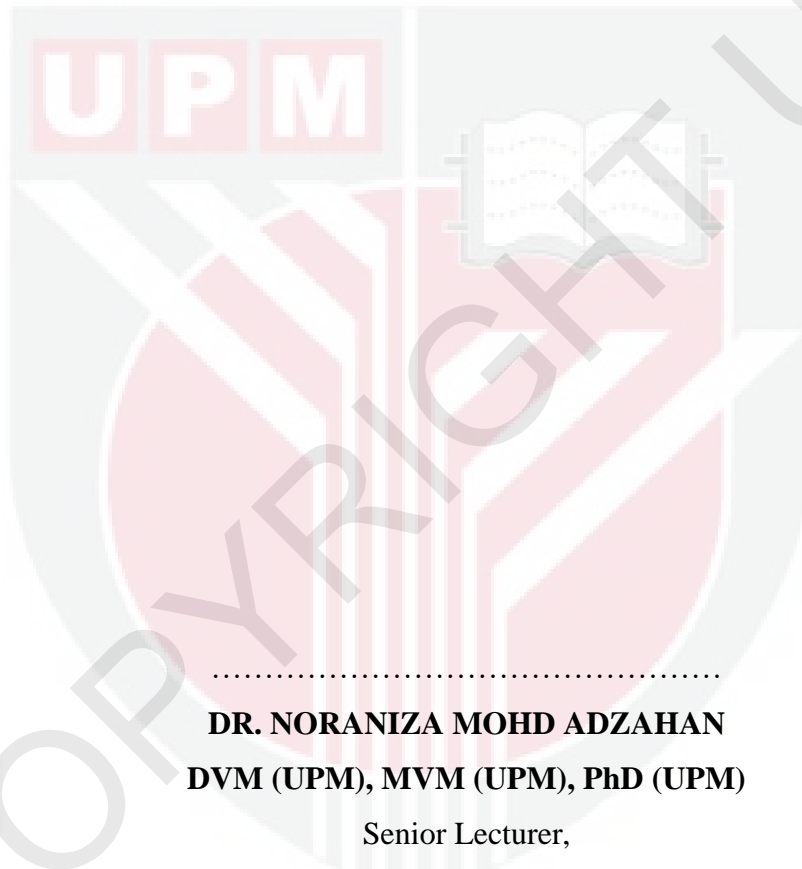
**A SURVEY ON HEALTH PROBLEMS AND STEREOTYPIC BEHAVIOURS  
ASSOCIATED WITH MANAGEMENT OF STABLED HORSES**

**AHMAD NAQIB BIN ABU BAKAR**

A project submitted to the  
Faculty of Veterinary Medicine, Universiti Putra Malaysia,  
In partial fulfillment of the requirement for the  
**DEGREE OF DOCTOR OF VETERINARY MEDICINE**

Universiti Putra Malaysia  
Serdang, Selangor Darul Ehsan

It is hereby certified that I have read this project paper entitled “A survey on health problems and stereotypic behaviours associated with management of stabled horses”, by Ahmad Naqib bin Abu Bakar and in my opinion it is satisfactory in terms of scope, quality, and presentation as partial fulfillment of the requirement for the course VPD 4999 – Project.

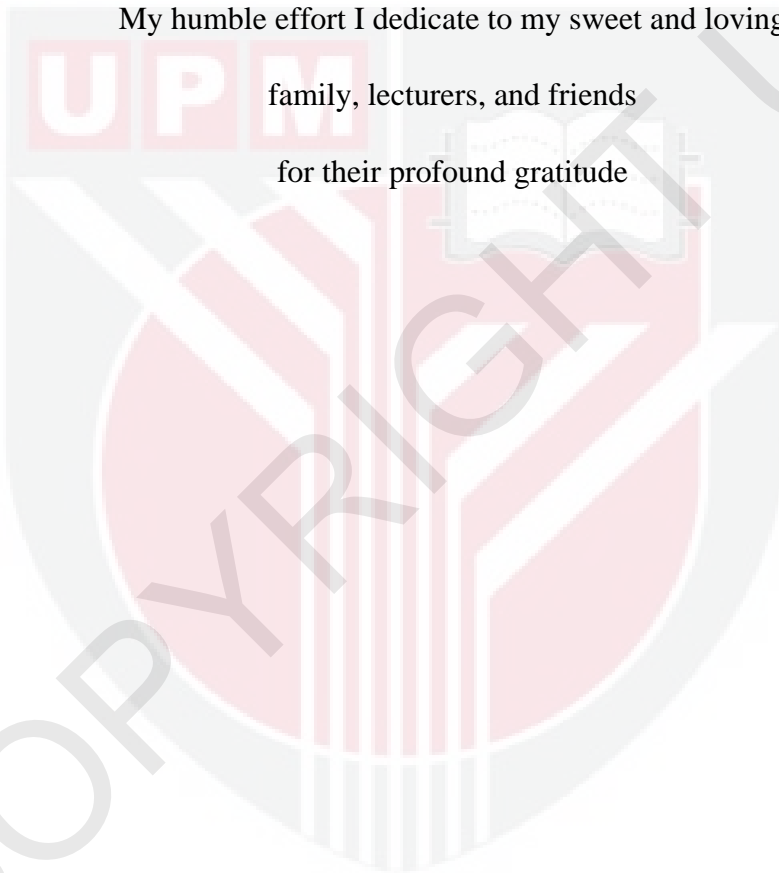


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## DEDICATION

My humble effort I dedicate to my sweet and loving  
family, lecturers, and friends  
for their profound gratitude



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**ABSTRAK**

Abstrakdaripadakertasprojek yang  
dikemukakankepadaFakultiPerubatanVeterinaruntukmemenuhisebahagiandaripadak  
eperluankursus VPD 4999 – Projek.

**KAJI SELIDIK MENGENAI KELAKUAN TIDAK NORMAL SERTA  
MASALAH KLINIKAL DAN KAITANNYA DI ANTARA FAKTOR  
PENGURUSAN KANDANG KUDA DALAM KELOMPOK KUDA-KUDA DI  
DALAM KANDANG**

oleh

**Ahmad Naqib bin Abu Bakar**

**2017**

**Penyelia: Dr. Noraniza Mohd Adzahan**

Pengurusan kuda secara individu dalam pelbagai pusat equestrian dan berlakunya masalah kesihatan dan tingkah laku telah dinilai daripada 131 haiwan yang dipilih. Berdasarkan temu bual dan pemerhatian secara langsung terhadap haiwan, terdapat 61% daripada kuda menghabiskan masa kurang daripada 19 jam / hari di dalam kandang dan 39% menghabiskan masa lebih daripada 19 jam / hari. 85% diberikan jadual senaman secara teratur, manakala 15% tidak mempunyai jadual bersenam. Semua kuda-kuda itu telah diberi makan dengan makanan campuran yang terdiri konsentrat komersial, serat (rumput kering dan jerami) dan sebahagian

daripada kuda yang diberi makan dengan makanan tambaha. Semua kuda diberi makan empat kali sehari, kekerapan makan diet campuran dua kali sehari (lewat pagi dan petang) dan diikuti dengan diet serat (hay) sebanyak dua kali sehari (awal pagi dan lewat malam). Walaubagaimanapun, masa makanan tidak tetap. Masalah tempang kaki (30%), penyakit kulit (16%) dan sakit perut (9%) adalah penyakit yang paling kerap dipetik dalam temu bual. 30% daripada kuda menunjukkan masalah tingkah laku. Setiap satu daripada faktor-faktor pengurusan telah gagal menunjukkan sebarang kaitan menggunakan ujian analisis khi-kuasa dua. Pengurusan kuda telah menimbulkan banyak kebimbangan mengenai makanan dan tempat tinggal kuda. Walaupun begitu, ianya mungkin tidak mempunyai kaitan dengan kehadiran masalah kesihatan dan masalah tingkah laku. Walau bagaimanapun, keputusan hasil kajian ini tidak dapat menafikan sebarang hubungan yang signifikan pengurusan dan masalah dalam kajian yang telah dilakukan sebelum ini. Keputusan yang dibentangkan di sini boleh menjadi maklumat yang berguna untuk analisis selanjutnya pada masa akan datang.

Kata kunci: Masalah tingkah laku kuda, masalah kesihatan kuda, kuda, pengurusan kuda

## **ABSTRACT**

An abstract of the project paper presented to the Faculty of Veterinary Medicine in partial fulfillment of the course VPD 4999 – Project.

### **A SURVEY ON HEALTH PROBLEMS AND STEREOTYPIC BEHAVIOURS ASSOCIATED WITH MANAGEMENT OF STABLED HORSES**

**By**

**Ahmad Naqib bin Abu Bakar**

**2017**

**Supervisor: Dr. Noraniza Mohd Adzahan**

The management of individual stabled horses in multiple equestrian establishments and the occurrence of health and behavioural problems were assessed in 131 animals. Based on interviews and direct observation of the animals, it was found that 61% of the horses spent less than 19 hours/day in the stalls and 39 % spent more than 19 hours/day. Eighty-five percent exercised regularly, whereas 15 % did not exercise at all. All of the horses were fed with mix feed which consist of commercial concentrates, fibres (hay and chaff) and some were fed with additional supplements. All horses were given four meals daily which the feeding frequency of the mix diet were twice per day (late morning and afternoon) and fibre diet (hay)

twice per day (early morning and late evening). However, the timing of the meals were not fixed precisely. Lameness (30%), skin diseases (16%) and colic (9%) were the most cited diseases in the interviews. Thirty percent of horses showed behavioural problems. Each of the management factors did not revealed any association on both occurrence of health and behaviour problems using the chi square test. Research findings would be a useful as a baseline data for further analysis in the future.

**Keywords:** Stereotypic behaviour, health problems, horse, management factors

## 1.0 INTRODUCTION

Horses in the wild spend most of the day in groups searching for a wide and safe place for food and rest while stabled horses are fed by humans have limited natural social interactions (Mills and Clarke, 2002). Despite horses that are kept in the stable able to meet human's need, the stable is contradicted with the natural environment and many do not meet the horses' needs (Goodwin, 1999; Bird, 2004). There are strong suggestions that equine stereotypies and occurrence of health problems are connected to poor welfare and a suboptimal management and/or stabling environment. Different forms of equine stereotypic behaviours have been described such as crib biting, weaving, and box walking which are considered the most prevalent (Sarrafchi&Blokhuys, 2013). Thus, this study is proposed with the aim to survey the variety of stable management and evaluate the relationship of stabled horses and the occurrence of stereotypic behaviour and health problems.

## **1.1 Objectives**

1. To describe different types of management of stabled horses practiced locally.
2. To describe the common clinical problems and stereotypic behaviours observed in stabled horses associated to different routine management.
3. To show the association between occurrence of clinical practice and stereotypic behaviours under different types of stable management.

## **1.2 Hypothesis**

The occurrence of clinical problems and stereotypic behaviours have a strong association with different types of management of stabled horses.

## **2.0 LITERATURE REVIEW**

### **2.1 Stereotypic Behaviour in Horse**

Mason (1991) discussed critically on the definition of stereotypic behaviour which the definition of 'stereotypies' or 'stereotypic behaviours' have been defined repetitive, unvarying and apparently functionless behaviour patterns. In horse, typical locomotor activity that is classically described as stereotypic is weaving. The definition of weaving by Mills & Nankervis (1999) is the lateral swaying of the head over the

stable door or some other barrier which the activity may also involve the swaying of the rest of the body, including the shoulders, and picking up the front legs (Cooper & McGreevy, 2007). In stables with weaving grills a similar activity called treading (Kiley-Worthington 1987) may be observed, involving swaying of the body or alternative lifting of the forelegs, but without the swaying of the head and neck. In addition, other stereotypic behaviours that fall under this category (locomotor activity) include box-walking (Kiley-Worthington 1983), nodding, door-kicking and pawing (Cooper & McGreevy, 2007).

Owen (1982) classified crib-biting, wind-sucking, grasping and wood-chewing as stereotypic of the oral activities. Crib-biting involves the grasping of a surface (usually horizontal) in the teeth (McGreevy & Nicol 1998) and the apparent engulfing of air. However, crib-biting that is described by Broom & Fraser (2007) only involve grasping with incisor teeth which the author did not include the engulfing of the air. The surfaces of the cribbing activities usually the top of the stable door, shelves or horizontal lips on the stable wall or the edges of feed or water buckets (Cooper & McGreevy, 2007). Wind-sucking involves the same contraction of neck muscles and apparent engulfing of air, but without grasping. Both cribbing and wind-sucking can be characterised in behavioural observations as 'an apparent sharp intake of breath' and are often accompanied by an audible 'grunt'. Wind-sucking is often also called aerophagia (air swallowing) in scientific literature (e.g. Karlander *et al.*, 1965; Baker & Kear-Colwell 1974). Contradict by the finding of McGreevy *et al.* (1995), a misnomer as tracing of



the air movements in the respiratory tract of wind sucking horses reveal that little or no air is swallowed.

The behaviours from the horses in the stables were observed to have a considerable deviation from horses in the wild and free range (Cooper & McGreevy, 2007). Nicol (1990) reported that stereotypic patterns of behaviour of stabled horses, such as weaving, crib-biting and box-walking, are particularly associated with stabling, affecting between 10 and 40%. The explanation on the abnormal behaviours in the stabled horses include behaviours that rarely observed in free-ranging horses, difficult to explain in functional terms, undesirable to horse owners (Cooper & Mason 1998). In stable management, stereotypies are traditionally classed with a wider category of 'vices' that are considered undesirable to people (*e.g.* Houpt 1982; Luescher *et al.*, 1998). The understanding of causes and effects of equine stereotypies are investigated in epidemiological studies by McGreevy *et al.* (1995), Luescher *et al.* (1998) and Redboet *et al.* (1998), which have been reviewed by Nicol (1999). The incidence of stereotypies consistently relate to a number of management factors including the feeding of concentrates with little access to fibre and social isolation (Cooper & McGreevy, 2007).

## 2.2 Health Problems in Horse

Pathological or painful conditions can arise where horses are kept in situations that are incompatible with their natural physiology, or can arise through injury

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