

UNIVERSITI TEKNOLOGI MARA

**THE RELATIONSHIP BETWEEN
POSTURAL ANGLES AND WORK-
RELATED MUSCULOSKELETAL
DISORDERS (WMSDs) AMONG
THE ROYAL MALAYSIAN POLICE
(PDRM) MOUNTED POLICE UNIT
IN SELANGOR**

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In the name of Allah, The Most Gracious, The Most Merciful.

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ABSTRACT

Musculoskeletal disorders (MSDs) is defined as injuries and disorders of nervous system and soft tissues. Work-related musculoskeletal disorders (WMSDs) are related to workplace physical factors. Horseback riding activities are exposed to ergonomic risk factors such as repetitive movement and awkward posture. The purpose of this study was to determine whether significant exist between the postural angles and the prevalence of work-related musculoskeletal disorders (WMSDs) in mounted police at cantering during the daily training. Video analysis was used to determine the absolute angles of the neck, trunk, upper arm, lower arm, wrist/hand, and leg guided by Rapid Entire Body Assessment (REBA) worksheet. At cantering, significant in the rider's leg angle were found between the prevalence of WMSDs $p = 0.041$, $p < 0.05$. Meanwhile, there were no significant in the rider's neck, trunk, upper arm, lower arm and wrist/hand angle were found between the prevalence of WMSDs. Further work is necessary to investigate the forces acting on the rider during canter and the postural strategies employed by riders to maintain a balanced position. Such work is a necessary forerunner to the study of rider influence on horse performance.

Keywords: Horse-rider; riding; work-related musculoskeletal disorders; postural angles; prevalence; REBA.

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CHAPTER 1

INTRODUCTION

1.1 Background

It is dangerous proposition to work with large animals like horses and other livestock (Lundqvist et al., 2017). Riding trainers, veterinarians, farriers, those who work in stables, and a wide variety of other types of people are all examples of people who work with and around horses. Research conducted by Brooks et al. (2010) found that working around horses and going horseback riding both contributed to an increased risk of injury. According to the National Institute for Occupational Safety and Health (NIOSH), various epidemiological studies have established evidence of a causal association between physical exertion at work and work-related musculoskeletal disorders (WMSDs) (Bernard et al., 2017). WMSDs are a general concept for a collection of painful conditions affecting the muscles, nerves, and tendons. Nearly all jobs demand the use of one's arms and hands, and involve activities such as repetitive motion, vibration, awkward postures, and labour, amongst other things. In consequence of this, the majority of people who have WMSDs experience muscle pain in their hands, wrists, elbows, neck, shoulders, and other portions of their body such as their legs, hips, ankles, and feet (The Canadian Centre for Occupational Health and Safety (CCOSH), 2003).