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Kampus Sultan Abdul Jalil Shah



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**MUSCULOSKELETAL PAIN AND POSTURAL AWARENESS
AMONG PUBLIC UNIVERSITY STUDENTS**



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Kampus Sultan Abdul Jalil Shah



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**FACULTY OF SPORTS SCIENCE & COACHING
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DECLARATION

I hereby declared that all the writings, works and the ideas in the research report

is my own ideas and concept except for reference

which have been fully acknowledged.



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This research report has been received and approved to fulfil the requirement for

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ABSTRACT

Musculoskeletal pain is amongst the most prevalent health issues in today's society. University students are particularly impacted by issues brought on by musculoskeletal pain. Thus, the main aim of this study is to identify the pattern of musculoskeletal pain among public university students. A cross sectional study was carried out in public university. Participants were university students who completed structured questionnaire on the topic of musculoskeletal pain and postural awareness. The first part of the questionnaire was self-administered regarding their demographic information. The second section of the questionnaire was the Nordic Musculoskeletal Questionnaire (NMQ) to determine the site of pain. The third section was Postural Awareness Scale Questionnaire (PAS) to identify their postural awareness level. A total of 110 public university students responded to the questionnaire consisting of 43.60% male and 56.40% female students. Lower back (46.4%) and shoulders (40.9%) are the most frequently reported in the last 12 months. Meanwhile, lower back (33.6%) and shoulders (32.7%) in the last 7 days. Between both genders, female students reported more cases in musculoskeletal pain compared to male students. Postural awareness and musculoskeletal pain has shown a significant result ($p < 0.05$) but weak correlation in a few parts of body region. This study has concluded that the prevalence of musculoskeletal pain among university students is truly high and requires preventive strategies. Therefore, more studies should be done to investigate the contributing factors of musculoskeletal pain among public university students.

Keywords: Musculoskeletal pain, postural awareness, public university students





SAKIT MUSKULOSKELETAL DAN KESEDARAN POSTUR DALAM KALANGAN PELAJAR UNIVERSITI AWAM

ABSTRAK

Kesakitan muskuloskeletal adalah antara isu kesihatan yang paling lazim dalam masyarakat hari ini. Pelajar universiti amat terkesan dengan isu yang ditimbulkan oleh sakit muskuloskeletal. Justeru, matlamat utama kajian ini adalah untuk mengenal pasti corak kesakitan muskuloskeletal dalam kalangan pelajar universiti awam. Kajian keratan rentas telah dijalankan di universiti awam. Peserta adalah pelajar universiti yang melengkapkan soal selidik berstruktur mengenai topik sakit muskuloskeletal dan kesedaran postur. Bahagian pertama soal selidik adalah mengenai maklumat demografi mereka. Bahagian kedua soal selidik ialah *Nordic Musculoskeletal Questionnaire (NMQ)* untuk menentukan anggota yang mengalami kesakitan. Bahagian ketiga ialah *Postural Awareness Scale (PAS) Questionnaire* untuk mengenal pasti tahap kesedaran postur. Seramai 110 orang pelajar universiti awam telah menjawab soal selidik yang terdiri daripada 43.60% lelaki dan 56.40% pelajar perempuan. Bahagian bawah belakang (46.4%) dan bahu (40.9%) adalah kesakitan muskuloskeletal yang paling kerap dilaporkan dalam tempoh 12 bulan yang lalu. Manakala, bahagian bawah belakang (33.6%) dan bahu (32.7%) dalam tempoh 7 hari yang lalu. Antara kedua-dua jantina, pelajar perempuan melaporkan lebih banyak kes sakit muskuloskeletal berbanding pelajar lelaki. Kesedaran postural dan kesakitan muskuloskeletal telah menunjukkan perkaitan yang signifikan ($p < 0.05$) tetapi mempunyai korelasi yang lemah di beberapa bahagian kawasan badan. Kajian ini telah membuat kesimpulan bahawa prevalens kesakitan muskuloskeletal dalam kalangan pelajar universiti adalah amat tinggi dan memerlukan strategi pencegahan. Oleh itu, lebih banyak kajian perlu dilakukan bagi menyiasat faktor yang menyumbang kepada kesakitan muskuloskeletal dalam kalangan pelajar universiti.

Kata kunci: Sakit muskuloskeletal, kesedaran postur, pelajar universiti awam



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CHAPTER 1

INTRODUCTION

1.1 Introduction

1.1.1 Musculoskeletal pain

Musculoskeletal pain, which affects the bones, joints, muscles, tendons and ligaments of the human body, is one of the most common types of pain. A range of illnesses that may cause pain in bones, joints, muscles, or the areas around surrounding structures are included in the category of musculoskeletal pain, which can be either acute or chronic. Repetitive strain, uncomfortable postures, overuse, and musculoskeletal disorders associated with the workplace were other causes of musculoskeletal problems.



1.1.2 Postural Awareness

Postural awareness, as described by Cramer et al. (2018), is the subjective awareness of one's own body posture that is primarily dependent on proprioceptive signals from the body's periphery to the central nervous system. A variety of conditioning elements, including mechanical aspects, inheritance, race, flexibility, muscular strength, vision, and habits, can affect how the body holds itself, but it can also be influenced by psychological and emotional components in interactions that are mutually dependent. (Brito, 1995; Wright et al., 2000). According to The American Academy of Orthopaedic Surgeons (AAOS) poor posture was defined as a faulty relationship of the different body parts, which increased strain on the supporting structures. The persisting postural faults resulting in disability, pain, or discomfort.



1.2 Background of Study

Since it has a harmful effect on our capacity to carry out our everyday tasks, musculoskeletal pain has been one of our main concerns in life. Many nations, including Malaysia, resorted to e-learning as a teaching approach during the COVID-19 pandemic outbreak. The shift in teaching strategies has led to students using their desktop, laptop, or tablet pcs for a significant portion of the day. Nevertheless, since before the pandemic, undergraduate students typically sat in on classroom sessions for the theories input and lecture while also working in front of a laptop to search around and find certain resources, which included a fair amount of continuous sitting in most of their everyday tasks. A research by Nordin, Devinder, and Kanglun (2014) found that 31% of students often spend 6 to 8 hours per day sitting in class or working at the





front of a computer. Prolonged sitting, which has been defined as sitting for more than two hours per day, causes more physical aches and pains (Waongenngarm et al.,2016).

1.3 Problem Statement

Musculoskeletal pain, especially back pain, is amongst the most prevalent health issues in today's society. University students are particularly impacted by issues brought on by musculoskeletal pain. This is due to the fact that they spend the majority of their everyday routines sitting for extended periods of time in static or irregular bodily postures due to their long study time, high levels of stress, and workload associated with using a laptop. These issues could lead to chronic pain and lower students' productivity and activity levels.

Musculoskeletal pain among students of the university may also be brought on by their low posture awareness levels. An optimal or ideal body posture is one in which the muscular and skeletal balance protects the supporting components of the body against harm or a developing deformity while working or resting. In order to put the human body under the least amount of stress, this ideal posture requires positioning the joints. The proper body posture is obviously crucial for university students to know of in order to keep musculoskeletal pain away.

Many studies that have been done were only focusing on the healthcare students and to the best of our knowledge, there is lack of study that evaluated the pattern of musculoskeletal pain and its relationship with postural awareness among





the public university student. Hence, the objective of current study is to determine the pattern of musculoskeletal pain and its relationship with postural awareness among public university students.

1.4 Objectives of the Study

- a) To identify the pattern of musculoskeletal pain among public university students according to body region.
- b) To identify the pattern of musculoskeletal pain among public university students according to gender.
- c) To analyse the association between postural awareness and musculoskeletal pain among public university students.



1.5 Research Questions

- a) What are the patterns of musculoskeletal pain among public university students according to body region?
- b) What is the pattern of musculoskeletal pain among public university students according to gender?
- c) What is the association between postural awareness and musculoskeletal pain among public university students?





1.6 Operational Definition

a) Musculoskeletal Pain

Any pain and/or discomfort at least once in at least one body part of the participant during the previous 12 months and 7 days (Melese et al. 2020).

b) Postural Awareness

A subjective, conscious knowledge of one's own bodily posture is referred to as postural awareness (PA), which is a component of mind-body integration (Topino et al. 2020).

1.7 Limitations of the Study



The limitations in this study might affect the finding and results of the research. There are several limitations found in this research including:

1. Some subjects might be participating in some sports that might contribute to the pattern of their musculoskeletal pain.
2. Different lifestyle and fitness level between the subjects could influence the quality of their life.

1.8 Significance of Research

- a) Provide information about the importance of a correct body posture among the university students.
- b) Raise the level of postural awareness among university students.

