

The Relationship between Usage of Digital Devices and Musculoskeletal Symptoms: A Cross-Sectional Study among University Students in Sarawak

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Abstract—Digital devices such as mobile phone, personal computer and laptop are playing a major role in students' life, but if overused they can bring certain impacts on the musculoskeletal system. Objective: To determine the relationship between usage of digital devices and musculoskeletal symptoms among the university students. Methods: A self-administered questionnaire consist of digital devices use items and the Cornell Musculoskeletal Discomfort Question (CMDQ) were administered among 311 university students. Correlation analysis was done by using the SPSS software. Results: The mean age of study respondents was 21.6 years old (SD=1.0). A majority of respondents use mobile phone (94.9%) on a prolonged sitting position ranging from 5.0 to 7.5 hours per day. About 32% to 60% of respondents experienced musculoskeletal symptoms in at least one body part, with higher prevalence on the neck, shoulder, lower back, and upper back. Females are more prone to experience musculoskeletal symptoms. Time spent on digital devices, eye-to-screen distance, body posture, and age of first use were significantly correlated with musculoskeletal symptoms. Conclusions: University students are at a higher risk to experience musculoskeletal symptoms related to the usage of a handheld digital device. If these musculoskeletal symptoms are not prevented, it may further cause dysfunction and disability at young age. To mitigate these problems, some form of targeted health promotion initiative needs to be implemented in the university.

Keywords—Digital Devices, Musculoskeletal Symptoms, University Students

1 Introduction

In 2019, there were around 4.7 billion mobile phone users worldwide [1]. Smartphones in particular is becoming a necessity among the public, offering wider accessibility to information [2]. In Malaysia, 20 out of 31 million of its population were smartphone users and about 93% of these users are under the age of 25 [3]. Smartphone remains popular among young adults to replace bulky personal computer (PC) or handheld computers (laptop) for sending and receiving emails, chatting, opening and editing documents, surfing, online shopping, and gaming [4]. For students, smartphones