

## THE PREVALENCE OF WORK-RELATED NECK PAIN AMONG PHYSIOTHERAPISTS IN MALAYSIA

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### ABSTRACT

**Introduction:** It is well established that people with excess navicular drop have poorer balance compared to regular foot people and that participating in Taekwondo positively affects a person's balance ability, but the association between excess navicular drop excursions on Taekwondo participants has not been studied.

**Aim:** The objective of this study is to find the prevalence of work-related neck pain among physiotherapists in Malaysia.

**Study design:** Quantitative research with a correlational study design.

**Methods:** A descriptive cross-sectional study design was used and data was collected using a self-administered questionnaire that was either an online survey through emails or face to face, over a period of 6 months. A total of 138 Physiotherapists working in government and private hospitals and rehabilitation facilities in Malaysia were included. Therapists of both genders with minimum one year of clinical experience between the age of 20 to 40 were selected.

**Results:** A total of 94 female and 44 male therapists participated in this study. There were 117 participants out of 138 (84.8%) who had work-related neck pain. Therapists with less experience in the age range of 25-30 (57.2%) had reported a higher rate of neck pain compared to experienced therapists in the age group 36-40 had only (1.4%).

**Conclusion:** This study concluded that there is a high prevalence of work-related neck pain among Physiotherapists in Malaysia.

**Keywords:** Neck pain; Physiotherapists; Prevalence; Work-related musculoskeletal disorder

## INTRODUCTION

Work-related musculoskeletal disorders (WMSDs) are a group of syndromes characterized by soft tissue discomfort aggravated or caused by workplace exposures. Health care work is known as a high-risk job for WMSDs (Campo et al., 2008). A work-related musculoskeletal injury among physiotherapists was defined as pain lasting over three days and was caused by their work as a therapist.

Peterson, Bolton, and Humphreys (2012) mentioned that neck pain is a sensation of discomfort in the neck and is not a disease or injury, but it is a symptom. It may occur in many different conditions and it is also called cervical pain. Most neck pain episodes are caused by mechanical disorders. Mechanical neck pain can further be defined as pain secondary to overuse of normal anatomic structure or pain secondary to trauma or deformity of an anatomic structure; which can be further characterized by exacerbation and alleviation of pain in direct correlation with particular physical activities (Borenstein, 2013).

Neck pain is a disabling condition with a course marked by periods of remission and exacerbation (Cote et al., 2004). Almost 85% of neck pain may be attributed to chronic stress and strains or acute or repetitive injuries associated with poor posture, anxiety, depression, and occupational or sporting risks (Ho and Howard, 2011).

Aljanakh M. et al. (2015) stated that Musculoskeletal disorders usually incur as a reaction to specific risk factors involved in work-related activities, such as poor or static posture, repetitive motions, forceful movements, and exposure to mechanical stress.

According to Cromie, Robertson and Best (2002) Physiotherapists are exposed to diverse demands at work, when administering treatments such as massages or when transferring immobile patients, awkward postures can lead to musculoskeletal complaints. Physiotherapists who provide services in the prevention and treatment of musculoskeletal injuries are suffering from occupational musculoskeletal disorders and their incidence is very high among them. The rate of prevalence of WMSD in physiotherapists was reported in many different countries. However, studies on the prevalence of work-related neck pain among physiotherapists in Malaysia are lacking.

The purpose of this study was to determine the prevalence of work-related neck pain among physiotherapists in Malaysia.

## **METHODOLOGY**

This study used a qualitative approach and the study design used in this research is a cross-sectional study design. Ethical approval from MAHSA University, Department of Physiotherapy is obtained before the commencement of the study. Non-probability convenience sampling technique was used to select the samples based on the following inclusion criteria, Physiotherapists with at least one year of clinical experience and between the age of 20-40 years old. Physiotherapists with musculoskeletal problems prior to the start of work, who acquired musculoskeletal problems during their career because of other causes, such as motor vehicle injuries, sports injuries and trauma, and those who were in administrative positions without having a significant involvement in daily clinical practice and therapists diagnosed with rheumatoid arthritis and congenital disorders were excluded from the study.

Physiotherapists working in public, as well as private clinical setups, were approached who met the inclusion and exclusion criteria, the procedure was explained, and consent was taken to participate in the study. A total of 138 participants were recruited. the questionnaires were distributed either through email, post, or personally delivered and collected questionnaires from physiotherapists in all hospitals, private practices, and rehabilitation facilities in Malaysia.

The questionnaire consists of two sections. The first section consists of a consent form for the participants and demographic data. The second section contains questions about the prevalence of neck pain. This questionnaire was adapted from similar studies (Cromie et al 2000; West et al 2001). It took approximately 10 minutes to be completed by the participants and was returned to the researchers immediately upon completion. The researcher checked through the questionnaires upon receiving them to identify any missing information or errors.

In this study frequencies, percentages, means, standard deviations, tables and categorical variables were employed to analyze the data after it had been loaded onto Microsoft Excel. Data were analyzed using the Statistical Package for Social Sciences (SPSS) software version 26.

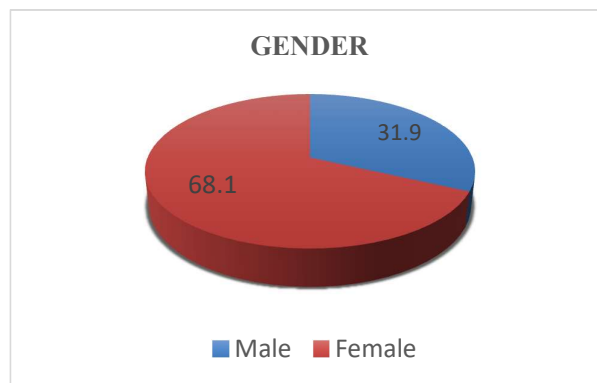
## RESULTS

Table 1 and Figure 1 showed that 68.1% female participants and 31.9% male participants were among 138 responses in this study. The participants' ages ranged from 20 to 40 years old. According to table 2 and Figure 2, the highest participants 57.2% (n=79) were in the age range of 25 to 30 years old, secondly, 25.4% (n=35) of participants were 18 to 24 years old, followed by 15.9% (n=22) were between the age range of 31 to 35. Lastly, 1.4% (n=2) of participants fall between 36 to 40 years old. The prevalence of neck pain among different years of experience as physiotherapists is shown in Table 3 and Figure 3. The analysis of participants' current work status is presented in Table 4 and Figure 4. The majority of participants 90.6% worked as full-time Physiotherapists, a total of 8.7% worked as a freelancer and only 0.7% as part-time Physiotherapists.

**Table 1: Gender distribution (n=138)**

GENDER	FREQUENCY	PERCENTAGE
Male	44	31.9
Female	94	68.1
Total	138	100

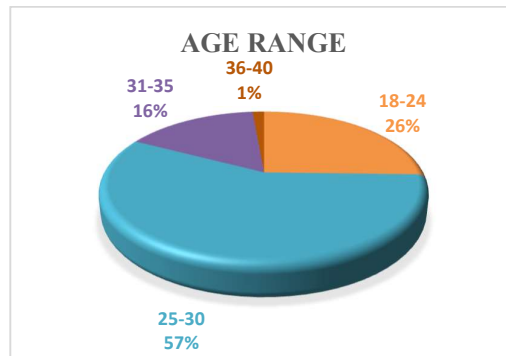
**Figure 1: Gender distribution**



**Table 2: Age Range (n=138)**

AGE	FREQUENCY	PERCENTAGE
18-24	35	25.4
25-30	79	57.2
31-35	22	15.9
36-40	2	1.4

**Figure 2: Age Range**



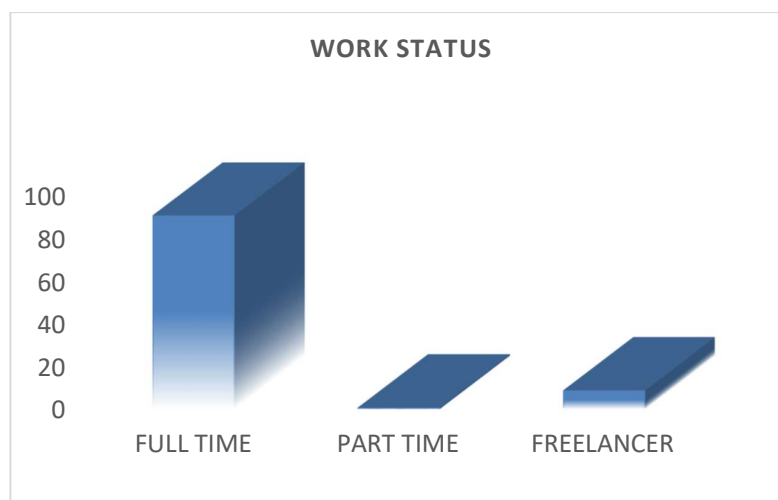
**Table 3: Total years of experience**

EXPERIENCE	FREQUENCY	PERCENTAGE
0-3 years	82	59.4
4-6 years	42	30.4
>7 years	14	10.1
Total	138	100.0

**Table 4: Current work status**

	FREQUENCY	PERCENTAGE
Full Time	125	90.6
Part Time	1	0.7
Freelancer	12	8.7
Total	138	100

**Figure 4: Current work status**

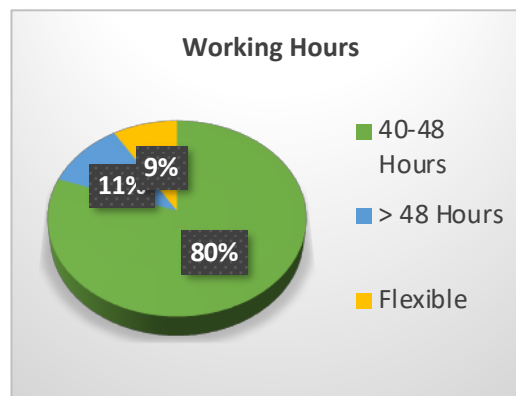


According to Table 5 and Figure 5, most Physiotherapists work within 40 to 48 hours per week which is 80.4%, followed by 10.9% of physiotherapists working more than 48 hours per week. Lastly, there is 8.7% of physiotherapists' working hours were flexible. Figure 6 analysis shows the average number of patients treated per day by physiotherapists.

**Table 5: Working hours per week.**

Hours	Frequency	Percentage
Within 40-48hours	111	80.4
More than 48hours	15	10.9
Flexible	12	8.7
Total	138	100.0

**Figure 5: Working hours per week**



**Figure 6: Average Patients / Day**

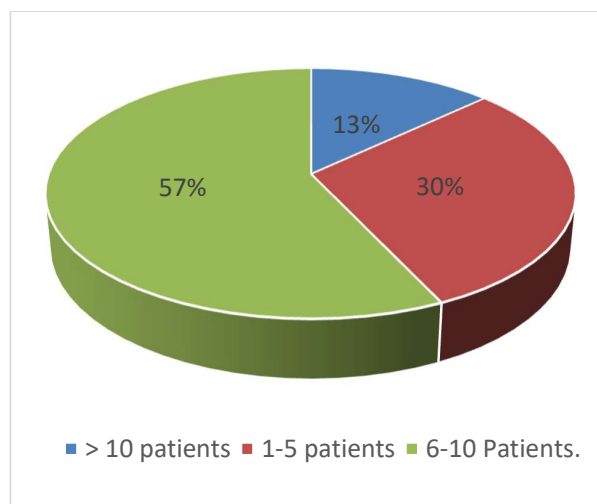
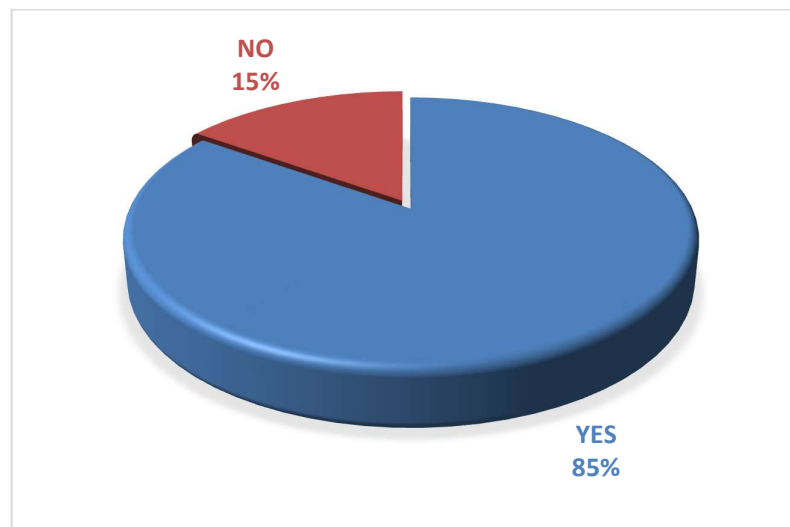


Table 6 and Figure 7 show the prevalence of work-related neck pain among Physiotherapists as high as 84.8%. They indicated that they had suffered from pain arising from their work at some point in their career. Data showed only 15.2% of Physiotherapists never experience work-related neck pain. The responses of participants shown in table 7 and Figure 8 showed the majority of Physiotherapists first experienced work-related neck pain in the first three years after graduation which is 65.9% (n=91), followed by 15.2% (n=21) around four to six years, 2.9% (n=4) who experienced after more than seven years of working.

**Table 6: Prevalence of Neck Pain**

Neck Pain	Frequency	Percentage
Yes	117	84.8
No	21	15.2
Total	138	100.0

**Figure 7: Prevalence of Neck Pain**

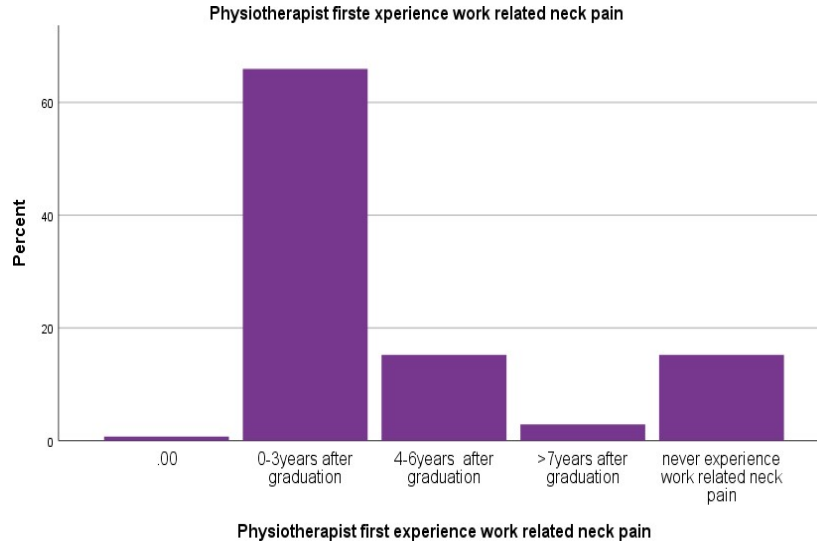


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**Table 7: First Experience of Neck Pain**

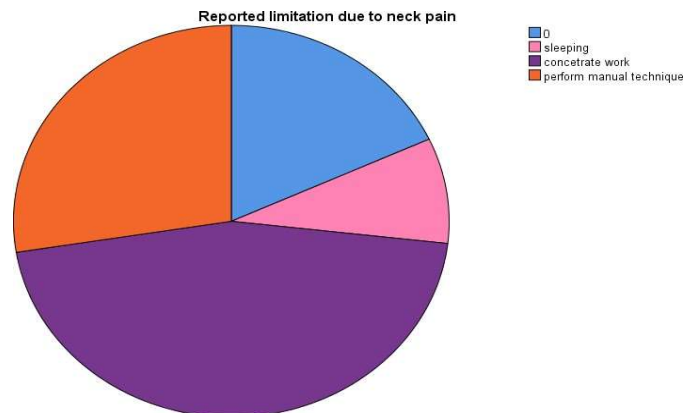
First Pain Experience	Frequency	Percentage
0-3 Years	91	65.9
4-6 Years	21	15.2
>7 Years	4	2.9
Never	21	15.2

**Figure 8: First Experience of Neck Pain.**



Functional limitation analysis due to neck pain, data reported that work-related neck pain in Physiotherapists mostly limits their concentration in work by 45.7% (n=63), secondly difficulty in performing the manual technique was 27.5% (n=35). However, a total of 18.1% of responses reported that there was no limitation as shown in Table 8 and Figure 9. Figure 11 analysed the different areas of therapist work and types of patients handled by the therapist.

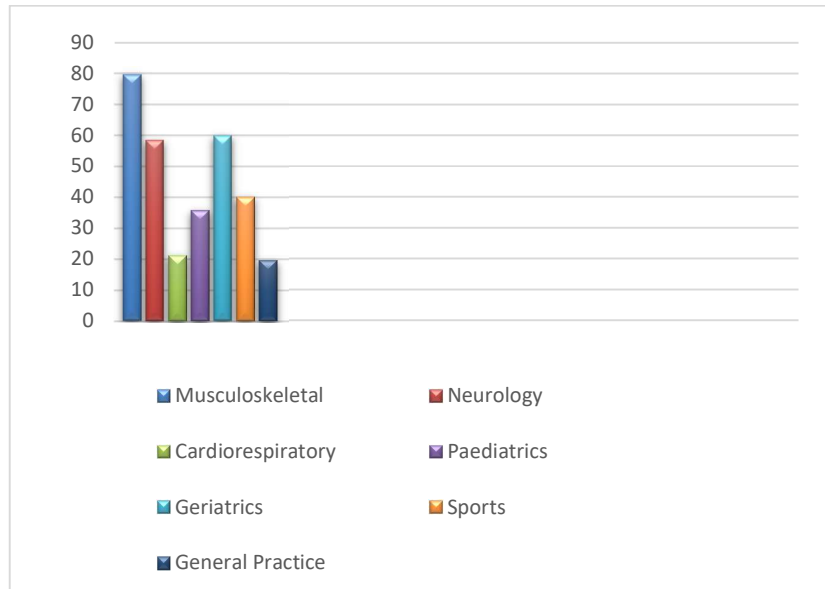
**Figure 9: Functional Limitation**



**Table 8: Functional Limitation**

Limitation	Frequency	Percentage
No	25	18.1
Sleeping	12	8.7
Concentrate Work	63	45.7
Perform Manual Techniques	38	27.5

**Figure 11: Type of Patient Handled**



## DISCUSSION

The main purpose of this study was to determine the prevalence of work-related neck pain among physiotherapists in Malaysia. The results show that the prevalence of work-related neck pain in this study was found to be 84.8%. The results also showed only 15.2% of Physiotherapists never experience work-related neck pain.

Based on the findings in this study, the number of therapists working with musculoskeletal patients has a high prevalence of neck pain 79.6%. The possibly predisposing factor could be using a different kind of manual technique such as Myofascial Release, Spine Manipulation, Joint Mobilization, Trigger point release, Neural Mobilization, Dry Needling and passively stretching which require a Physiotherapist's muscle endurance and muscle strength. The other areas of prevalence were geriatrics 59.9% and Neurology 58.4%.

According to the data analysis, the average number of patients treated by the therapists in a day is high with 57% having 6 to 10 patients per day and 10% of had more than 10 patients per day, which also could be another reason for the development of the work-related musculoskeletal disorder.

The majority of participants first experienced work-related neck pain in the first three years after graduation which is 65.9%, followed by 15.2% during four to six years and only 2.9% who experienced neck pain after more than seven years of working. Cromie, Robertson, and Best (2000) stated that the incidence of work injuries is the highest within the first 5 years of practice, and it is common in junior physiotherapists and newly qualified graduates. Alrowayeh et al. (2010) in their study mentioned that younger physiotherapists tend to be prone to WMSDs because of a lack of experience, knowledge and skills hence leading to having a higher workload.

Birte Brattig et al. (2014) analysed accidents at work and occupational diseases of physiotherapists along with work-related physical and psychosocial stress and job satisfaction. Total of 85 subjects, 51% suffer from complaints of the musculoskeletal system in the neck and thoracic spine region. Of the respondents, 61% stated they often felt exhausted at the end of a working day. Approximately one-third had often considered leaving their profession during the previous twelve months, with 55% citing physical problems as the main reason for leaving.

The neck pain limits many functional activities of the Physiotherapists. This may lead to difficulty in focusing the career, service performance delivery to the patients may deteriorate and hence the quality of life may also get affected. According to the results of this study, 45.7 % reported that they had difficulty concentrating on the work and 27.5 % reported difficulty performing the manual technique which is highly limited due to neck pain.

According to Vieira et al. (2016), the prevalence of neck pain among therapists can be reduced through proper body mechanics, changing the therapist's position frequently and avoiding lifting heavy weights, taking a pause during the work days and taking rest in between the long procedures and also through rotational working patterns.

## CONCLUSION

We concluded that the career prevalence of work-related neck pain among physiotherapists in Malaysia is high as 84.8%. Work-related neck pain among physiotherapists is mainly experienced in the first three years after graduation at 65.9%. The occurrence of injuries in junior physiotherapists also suggests the need for intervention services that are aimed at reducing injury rates among this particular group. The physiotherapy students should be educated about the possibility of WMSDs and preventive measures.

We suggest further research into the effective prevention strategies of WMSDs among physiotherapists and also study the psychological impact of WMSDs on physiotherapists' work and lives.

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