

CAREER PREVALENCE OF WORK RELATED MUSCULOSKELETAL DISORDERS AMONG GHANAIAAN PHYSIOTHERAPISTS AND ADOPTED COPING MECHANISMS

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Abstract

Background: Physiotherapists are usually at risk of work-related musculoskeletal disorders due to the nature of their work; which involves assuming of awkward postures coupled with force exertions and contact stress during patient handling, transfers and treatment maneuvers. That notwithstanding, very little attention has been paid to the musculoskeletal health effects associated with the work hazards experienced by physiotherapist in Ghana.

Objective: This study was conducted to determine the career prevalence of work-related musculoskeletal disorders among physiotherapists in Ghana and their adopted coping mechanisms.

Method: A cross-sectional online survey was used to collect data on registered physiotherapist in Ghana using a self-administered questionnaire. A link to a Google form for the questionnaire was sent via online. The collected data was analyzed using SPSS version 22.0. Chi-squared test was used to determine possible associations between participants demographic information and work-related musculoskeletal disorders with a significance level set at $p < 0.05$.

Results: There was an 85.98% career prevalence of work-related musculoskeletal disorders among physiotherapists in Ghana with the lower back and neck being the most prevalent body regions affected with a percentage of 65.42% and 37.38% respectively. Participants reported modification of treatment position (74.03%) and adoption of appropriate body mechanics (53.25%) as means of coping with work-related musculoskeletal disorders

Conclusion: There is a high career prevalence of work-related musculoskeletal disorders among Ghanaian physiotherapists. This high prevalence could be mediated by the implementation of appropriate worker training on safe patient handling and work methods.

Keywords: career prevalence, coping mechanisms, Ghanaians, physiotherapists, work-related musculoskeletal disorders.

Introduction

Work-related musculoskeletal disorders (WRMDs) are musculoskeletal injuries that occurs as a result of work-related events comprising of awkward postures, high repetitive movements, forceful exertion, vibration as well as decreased rest periods (Abaraogu et al., 2017; Rahimi et al., 2018). They are considered to be one of the leading causes of loss of work time, work restrictions, loss of consciousness, career shift or even death (Khairy et al., 2019) in industrially developed and developing countries and the second largest cause of short-term or temporary work disability after 'common cold' (Yasobant & Rajkumar, 2014).

A study conducted by Adegoke et al (2008) in Nigeria found coping mechanisms used by physiotherapists such as modifying patients position and their position (64.3%), selecting techniques that do not aggravate or provoke their discomfort (47.0%) and adjusting the plinth/bed height before treating a patient (39.1%).

In Ghana, very little research have been done on the WRMDs associated with physiotherapy practice and the coping mechanisms adopted by physiotherapists in reducing the extent and effects of WRMDs. In most health facilities in Ghana, hospital beds are unstable and un-adjustable making the appropriate and acceptable execution of physiotherapy services challenging (Acquah, Yarfi & Banson, 2018). In addition, there are also no clearly outlined injury prevention strategies and policies to minimize exposure risks of WRMDs among physiotherapists in Ghana. Thus, there is the need to provide empirical data on the prevalence of WRMDs and coping mechanisms for physiotherapists. This study sought to determine the career prevalence of WRMDs and the adopted coping mechanisms among physiotherapists in Ghana.

Methodology

Ethical approval was obtained from Research Ethics Committee of the University of Health and Allied Sciences, before the commencement of the study. The study population involved registered physiotherapists practicing in accredited physiotherapy units in public and private hospitals in Ghana. The study was publicized on the official WhatsApp platform of the Ghana Physiotherapy Association. Information about the study was provided to eligible participants after which consenting individuals were asked complete a written informed consent. Participation in this study was voluntary and participants' confidentiality was ensured at all stages of the study. A cross-sectional online survey was conducted among registered physiotherapist in Ghana by adapting the Nordic Musculoskeletal Questionnaire (NMQ) (Salik & Özcan, 2004; Adegoke et al., 2008; Alrowayeh et al., 2010) to suit the objectives of the current study. The questionnaires were redesigned using Google forms and link sent to prospective participants via their emails and other official social media platforms of the Ghana Physiotherapy Association. Physiotherapy students, interns as well as physiotherapists in academia were excluded from the study. The data collection process took place from January, 2019 to April, 2019.

The data collected in this study were cleaned and entered into Statistical Package for the Social Sciences (SPSS) version 22.0 as well as GraphPad Prism version 6.01. Descriptive statistics was used to summarise demographic characteristics as well as work profile of participants. Chi-square test (Fisher's exact test) was used to determine statistical association between participants' gender, marital status, professional experience, working hours per week, educational level, specialty, age group and work-related musculoskeletal disorders at a significance level of $p < 0.05$.

Results

A total of 107 out of 120 questionnaires were returned, giving a response rate of 89.17%. The respondents comprised 60(56.07%) males and 47(43.93%) females. A majority of them were between the ages of 20-30 years old contributing to 54(50.47%) and 31-40 years old making up 37(34.58%). Overall, 56(52.34%) of the respondents were single while 49(45.79%) were married. The highest level of education of participants ranged from entry level degrees (Bachelors) making 96(89.72%) compared to Master's degree contributing to 11(10.28%). The participants responses indicated majority, 83(97.20%) had less than 20 years of professional experience.

A majority of the participants 73(68.22%) worked in public hospitals, followed by private hospitals 22(20.56%) and a few offered physiotherapy service via home visits 8(7.48%). General physiotherapy 69(64.49%) was the most common area of practice (specialty) by the physiotherapists with orthopedic rehabilitation 6(5.61%) being the least area of practice. The largest proportion of participants 41(38.32%) worked more than 40 hours in a week.

There was an 85.98% career prevalence of work-related musculoskeletal disorders among physiotherapist in Ghana with the lower back and neck being the most prevalent body regions affected with a percentage of 65.42% and 37.38% respectively. Respondents attributed the occurrence of work-related musculoskeletal disorders to treatment of large number of patients. Statistical findings revealed a significant association between participants age, professional experience, marital status, and working hours per week and work-related musculoskeletal disorders. Participants reported modification of treatment position (74.03%) and adoption of appropriate body mechanics (53.25%) as means of coping with work-related musculoskeletal disorders

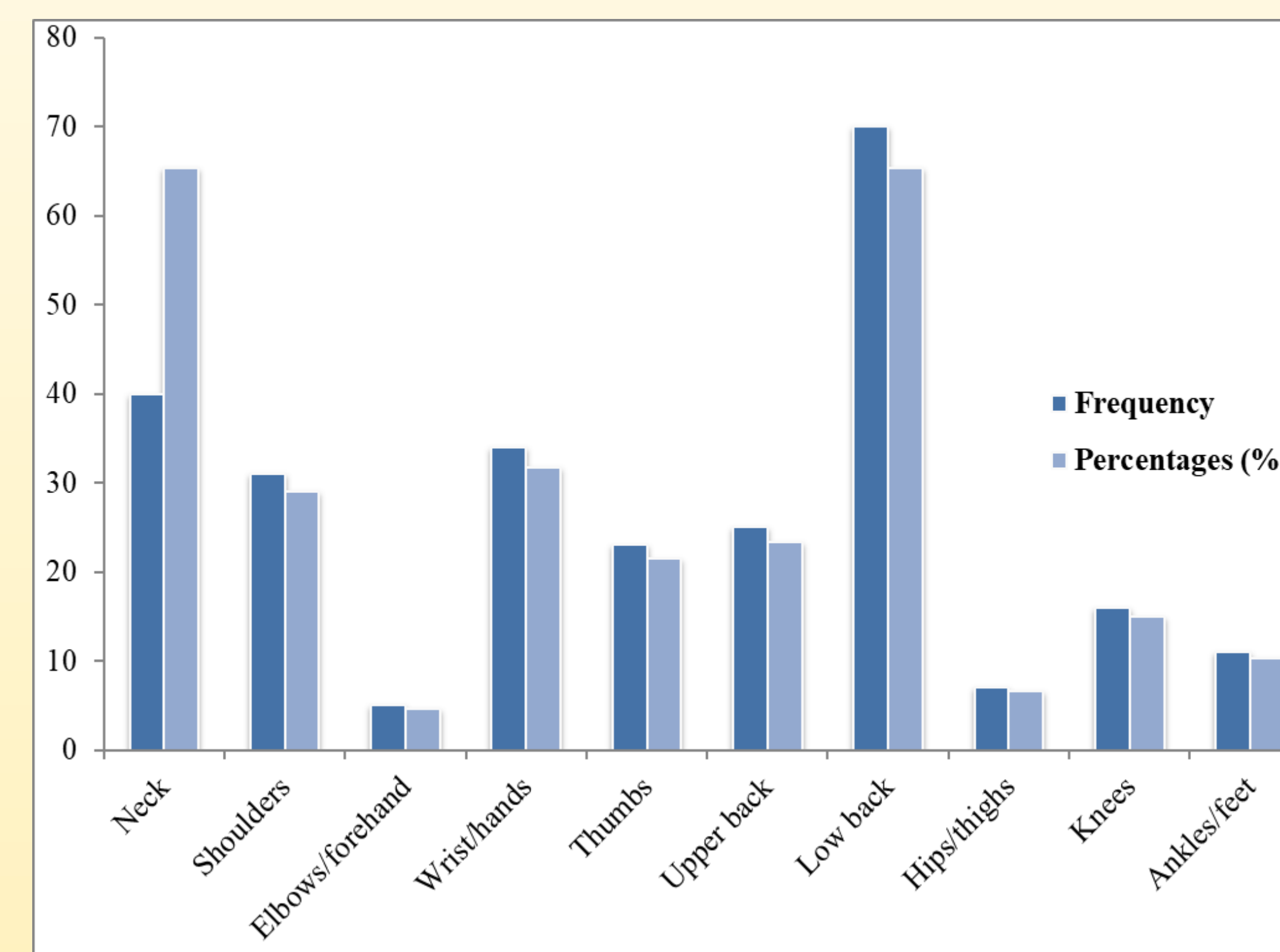


Figure 1: Percentage of participants' reporting WRMDs in ten regions of the body

Table 1: Association between participants demographic characteristics and WRMDs

Parameter	Prevalence		P value
	WRMDs n (%)	No WRMDs n (%)	
	92 (85.98)	15 (14.02)	
Gender			
Male	48 (80.00)	12 (20.00)	0.05
Female	44 (93.62)	3 (6.38)	
Age group (years)			
20-30	52 (96.30)	2 (3.70)	
31- 40	31 (83.78)	6 (16.22)	0.00***
41-50	7 (63.64)	4 (36.36)	
More than 50	2 (40.00)	3 (60.00)	
Marital status			
Single	53 (94.64)	3 (5.36)	
Married	38 (77.55)	11 (22.45)	0.01*
Divorced	1 (50.00)	1 (50.00)	
Educational level			
BSc	84 (87.50)	12 (12.50)	0.18
MSc	8 (72.73)	3 (27.27)	
Professional experience			
0-10	75 (90.36)	8 (9.64)	
11-20	16 (76.19)	5 (23.81)	0.01**
More than 20	1 (33.33)	2 (66.67)	
Working hours per week			
Less than 10	11 (84.62)	2 (15.38)	
10-19	8 (88.89)	1 (11.11)	
20-29	5 (50.00)	5 (50.00)	0.01**
30-39	29 (85.29)	5 (14.71)	
More than 40	39 (95.12)	2 (4.88)	

Conclusion

A high career prevalence of WRMDs exist among Ghanaian physiotherapist and this was significantly associated with participants age, work experience, marital status and work duration. The low back and the neck were the most prevalent WRMDs, and treating large numbers of patients in a day was reported by majority of the participants to be the perceived cause of WRMDs.

The common coping mechanism adopted by physiotherapists was modifying their position or patients' position and using improved body mechanics during treatment of patients.

The study recommends the Ministry of Health in collaboration with the Ghana Physiotherapy Association to outline and develop an occupational injury prevention strategies and policies in order to reduce the rate of WRMDs among physiotherapists. There should be the development of an early protocol for the treatment and prevention of WRMDs among PTs in order to reduce the career prevalence of WRMDs and to promote efficiency in patient care. The findings of this study underscore the importance the implementing an appropriate worker training on safe patient handling and work methods.

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Acknowledgements

The authors acknowledge the Ghana Physiotherapy Association and its members for participating in the study.

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