ORIGINAL ARTICLE

PREVALENCE OF WORK RELATED NECK PAIN AMONG PHYSIOTHERAPISTS AND ITS ASSOCIATION WITH AGE AND GENDER

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Background: Work related musculoskeletal disorders are very common among different health care workers. Among these, physiotherapists are known to be more affected by such disorders because of their way of treating patients for longer duration of time, repetitive work, awkward movements, poor posture and increase work load of static work. The objective of this study was to find out the prevalence of work related neck pain among physiotherapists and its association with age and gender. **Methods:** This cross-sectional analytical study was carried out at different physiotherapy setups and hospitals of Lahore over a period of six months. Participants were included through non-probability convenience sampling technique. Physiotherapists of either gender under 40 years of age with at least one year of clinical experience were included in the study. Physiotherapists with other morbidities causing musculoskeletal disorders like rheumatoid arthritis and congenital disorders were excluded. Data regarding neck pain was collected through modified Nordic Questionnaires which was distributed to 227 participants, and $p \leq 0.05$ was considered significant. **Results:** Out of 227 participants 51 (22%) had work related neck pain whereas 176 (78%) were without the pain. Eleven (4.85%) males whereas 40 (17.62%) females had neck pain and the difference in percentage was significant reflecting association of gender with neck pain ($p<0.001$). Thirty-two (14.10%) participants in age groups 25–30 years whereas 19 (8.37%) in age group 31–40 years had neck pain which was associated with age ($p=0.004$). **Conclusion:** Neck pain is a common work related musculoskeletal disorder which is more prevalent in females and younger age group. Female physiotherapists of relatively younger age are at higher cumulative risk of neck pain.

Keywords: Neck pain, Prevalence, Work related musculoskeletal disorder, MSD, Physiotherapy
Pak J Physiol 2017;13(3):39–42

INTRODUCTION

Work related musculoskeletal disorders (MSDs) are becoming highly common these days. These disorders can result in severe consequences for both individuals and the society. People experiencing MSDs can be left with temporary or permanent disabilities.[1] Musculoskeletal disorders usually incur as a reaction of specific risk factors involved in work related activities, such as poor or static posture, repetitive motions, forceful movements, and exposure to mechanical stress.[2] Neck pain which is a sensation of discomfort in neck, 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.[3] Causes of neck pain include flexion of cervical spine for longer duration, repetitive work, psychological job strain and soft tissue work. Individuals with musculoskeletal pain often report multiple pain sites including pain in the neck.[4] Neck pain is one of the most common musculoskeletal disorder, second only to low back pain.[5] The tasks performed by physical therapist are linked with work related musculoskeletal disorders which may lead to neck pain.[6] Factors like poor posture, stress and strains, acute or repetitive injuries, anxiety, depression and occupational or sporting risks imputed to 85% of neck pain.[7] Prevalence of neck pain in different countries was given as 52% in India, New Zealand reported about 57%, USA 48% and in china 83.8%. These studies showed a higher prevalence of neck pain among different medical health workers and also reported that the neck pain was more prevalent among female as compared to male health workers.[7] Life time prevalence of neck pain among physiotherapists in different countries were reported as 25% in the United Kingdom, 35% in Australia, and 22% in Turkey.[8]

Some factors which can increase the risk of neck pain include high demands of job, low social support, female gender, wrong posture, individual's height and inappropriate time period for rest. The purpose of this research was to determine prevalence of work related neck pain among physiotherapists and its association with age and gender.

SUBJECTS AND METHODS

This cross-sectional analytical study was carried out at different physiotherapy setups and hospitals of Lahore over a period of 6 months. The study was started after obtaining formal approval from Ethical Review Committee of University of Lahore. Written informed consent was taken from all participants. A sample size of 227 was calculated using WHO sample size calculator. Participants were included through non-

probability convenience sampling technique. Physiotherapists of either gender under 40 years of age with at least one year of clinical experience were included in the study. Physiotherapists with other morbidities causing musculoskeletal disorders like rheumatoid arthritis and congenital disorders were excluded.

Data regarding neck pain was collected through modified Nordic Questionnaires. This is a self-administered fully validated and reliable questionnaire with responses on dichotomous scale. Data were analysed using SPSS-20. Mean and standard deviation were calculated for numerical variables whereas frequency and percentage for categorical variables. Association of age and gender with neck pain was determined using Chi-square test and $p \leq 0.05$ was considered significant.

RESULTS

Out of 227 participants 51 (22%) had work related neck pain whereas 176 (78%) were without the pain. Figure-1 shows distribution of neck pain among males and females as clustered bar charts. There was significant association of gender with neck pain among the physiotherapists ($p<0.001$). Participants were divided into two groups on the basis of age; those with age 30 years and below and above 30 years. Figure-2 illustrates frequency of participants with and without neck pain among the two age groups. The association of age with neck pain was significant ($p=0.004$).

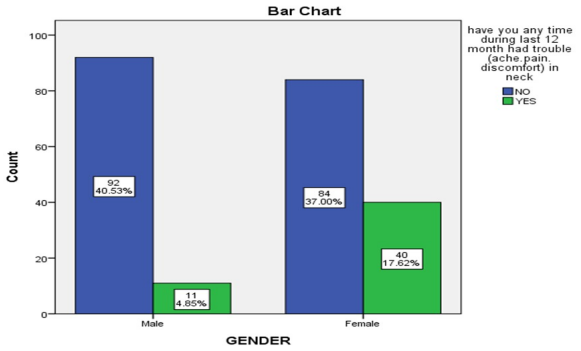

Figure-1: Association of neck pain with gender

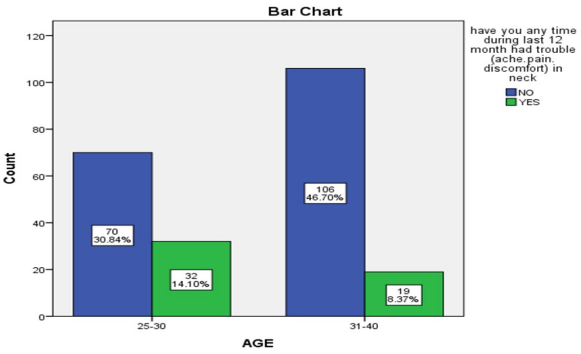

Figure-2: Association of neck pain with age

DISCUSSION

Neck pain was associated with age and gender with a prevalence of 22%. A study conducted in Islamabad/ Rawalpindi found a prevalence of neck pain as 18.81% in physiotherapists.[9] The reason behind the difference of percentage between these two cities may be higher number of patients in Lahore due to large population. Treating a large number of patients in a day and working in the same position for long duration may be the reasons for higher prevalence in Lahore as compared to Islamabad/Rawalpindi. Salik and Özcan[10] reported a prevalence of 12% of neck pain in Izmir, Turkey that was lower compared to study of Lahore. This could be because of less population of Izmir as compared to Lahore or understaffing of professionals at Lahore. This problem can be overcome by increasing number of physiotherapists in response to high demand for treating the patients.

In our study 4.85% males whereas 17.62% females had neck pain and the difference in percentage was significant reflecting association of gender with neck pain. Nordin *et al*[11] found that 5% male and 18% female had work related neck pain which was associated with gender. In another study, Edgar Ramos[12] also found that the female physiotherapists had high rate of prevalence of work related neck pain than male counterparts. Similar results were found by Raoof *et al*[13] in Egypt. Rozenfeld *et al*[14] found that female physiotherapists were 21% more likely to have neck and upper back WMSD as compared to males. The reason behind higher prevalence of neck pain in female seems to be their natural physical weakness as compared to males. Routine tasks put stresses on anatomical areas among which neck is the most commonly affected due to flexed posture of cervical spine for longer duration of time while treating patients with different management techniques.[15]

We found that physiotherapists with younger ager groups (25–30 years) had higher frequency of neck pain as compared to those with higher age group (31–40 years) and the association of age and neck pain was significant. Raoof *et al*[13] also reported that younger physiotherapists had highest prevalence of work related neck pain. Physiotherapists of younger age had more neck pain than older because they are new in profession and are not aware how to take care of their posture while treating patients and lack of knowledge regarding their ergonomics. In Sabah, Malaysia Balakrishnan[15] reported similar results like the present study. Younger physiotherapists can become less prone to pain through knowing and training on actual ergonomic working principles. Also, they should pay more attention to correcting their body mechanics.[16] The prevalence of neck pain can be minimized through improved body mechanics, changing position frequently, avoidance of

lifting weights, taking pauses during the work days, getting rest in between long procedures and working on rotation basis.[12]

CONCLUSION

Neck pain is a common work related musculoskeletal disorder and is more prevalent in females and younger age group. Female physiotherapists should avoid heavy lifting, transfer patients, use modalities, and decrease manual therapies. Efforts are required to preventive measures to avoid this debilitating problem.

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Received: 9 Jul 2017 Reviewed: 20 Jul 2017 Accepted: 22 Jul 2017