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PREVALENCE OF COMMON WORK RELATED MUSCULOSKELETAL PAIN IN PHYSIOTHERAPY PRACTIONERS

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INTRODUCTION

Physiotherapist according to W.H.O. assess, plan and implement rehabilitative programs that improve or restore human motor functions, maximize movement ability, relieve pain syndromes, and treat or prevent physical challenges associated with injuries, diseases and other impairments.[1] The WHO defined "Work Related Musculoskeletal Disorders" as that arises when the individual is exposed to work activities.[1] Work-related musculoskeletal disorders (WRMDs) are the most common cause of chronic pain and physical disability that affect contemporary workforces, In this context, musculoskeletal injuries are considered one of the largest health problems among physiotherapists, because the nature of the work that therapists expose themselves to has a high risk of pain[2] Task performed by physical therapists often require an overload of musculoskeletal system combined with repetitive movements of upper limb, maintaining static and dynamic postures for long period and movements that stress the spine. The work tasks that may lead to work related musculoskeletal disorders among physical therapists include lifting and carrying dependent patients, treating large number of patients in a work day, working in the same posture for long period of time, maintaining difficult or restrictive posture using manual therapy technique, perform same task repeatedly and executing movements including inclination and rotation of the trunk. Although work related musculoskeletal disorders are common among physical therapists[3] There are a number of factors that can lead to one developing musculoskeletal disorders. Bork et al identified three primary risk factors associated with WRMDs as repetitious movements, awkward postures and high force levels[4] Hence, in order to contribute to the body of knowledge we conducted a study to determine the proportion of physiotherapist who experienced WRMDs and the national professional association and the professional governing body can use this information to take adequate measures to minimize the exposure risk to injuries and to develop new injury management strategies.[2]

NEED FOR STUDY

So this study is done to find out the prevalence of work related pain amongst physiotherapist according to their specialization and also to provide them appropriate knowledge about the problem and safety issues.

AIM AND OBJECTIVE

To study the prevalence and distribution of work related musculoskeletal pain among physiotherapist working on OPD setup.

To find the most common site of pain according to their specialization while treating the patients
To find the average severity of pain

HYPOTHESIS OR NULL HYPOTHESIS

Hypothesis

There will be prevalence of work related musculoskeletal pain in the physiotherapist.

Null hypothesis: There will be no prevalence of work related pain in physiotherapist.

MATERIAL AND METHODOLOGY

Study Design: Questionnaire based survey.

Sample Size: 500 Physiotherapists.

Place Of Study: Government & private hospitals, India

INCLUSION CRITERIA

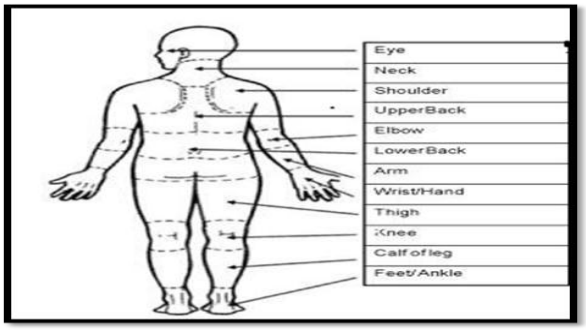
Work experience 1-5 years
Male and Female both

EXCLUSION CRITERIA

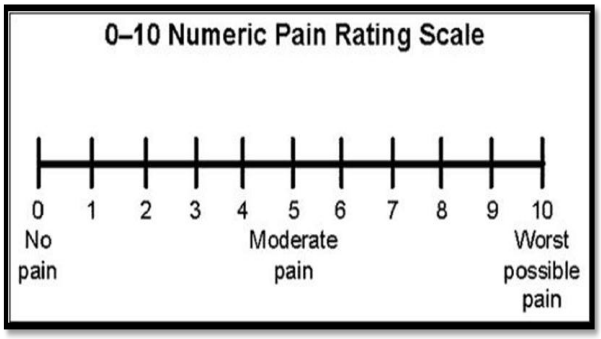
Any cardiovascular abnormality
Any history of major illness
Any other current illness causing pain

MATERIAL USED

Nordic Muscular Questionnaire



Visual Analog Scale



METHODOLOGY

The study was conducted among the physiotherapist working in different hospitals. All therapists were included in study. The study participants were given pre-designed questionnaire. Data on variables like age, sex, year of physiotherapy, musculoskeletal pain and related factors will be taken and analyzed.

Those who felt musculoskeletal Pain during the past 12 months in any body part. (Neck, Shoulder, Upper Back, Lower Back, Upper and Lower Extremities) The Pain lasted over a week or the symptom was observed more than once a month during the past year.

Musculoskeletal symptoms were investigated using a self-administered, purpose-designed questionnaire that is adapted from the standardized Nordic Musculoskeletal Questionnaire (NMQ) which is used to record work related musculoskeletal symptoms in working populations (Kuorinka *et al.*, 1987).[2]

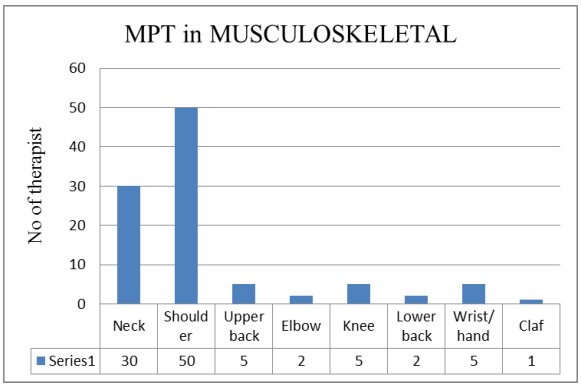
Severity of pain was assessed by Visual Analogue Scale**.**

RESULTS

Respondents that took part in the study were 500. The physiotherapist who participated had work experience between 1-5 years and were working in different hospitals in Maharashtra were the part of the study. Out of which 265(53%) were Females and 235(43%) were Males. Some of the physiotherapist had master's degree. Among which 100 physiotherapists had done masters in Musculoskeletal, 100 in Neuroscience, 100 in Cardiorespiratory, 100 in sports. Other 100 were Bachelor of Physiotherapy. Current study revealed the prevalence of Work Related Musculoskeletal pain in the physiotherapist because of their work and handling patient in different institutes of Maharashtra, with its average intensity of pain which was calculated according to VAS.

Table 1

Region	Percentage
Neck	30%
Shoulder	50%
Upper back	5%
Elbow	2%
Knee	5%
Lower back	2%
Wrist/hand	5%
Calf	1%

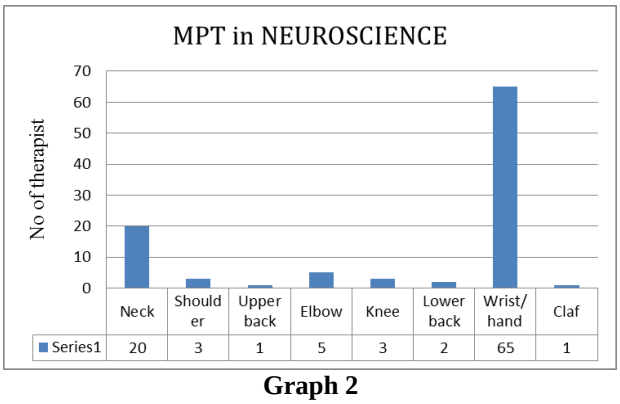


Graph 1

Interpretation: Physiotherapist who had done masters in Musculoskeletal physiotherapy had higher prevalence in shoulder (50%) and neck (30%) with an average intensity of 5.84 according to VAS

Table 2

Region	Percentage
Neck	20%
Shoulder	3%
Upper back	1%
Elbow	5%
Knee	3%
Lower back	2%
Wrist/hand	65%
Calf	1%

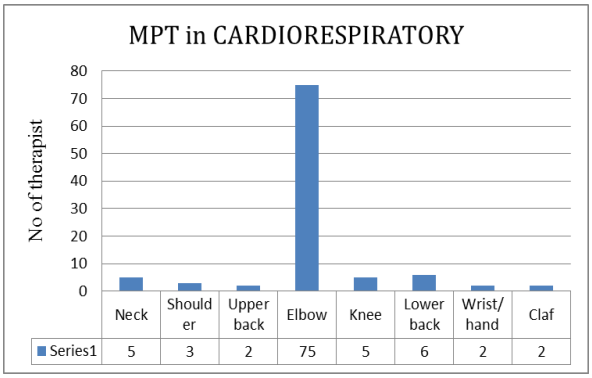


Graph 2

Interpretation: Physiotherapist who had done masters in Neuroscience physiotherapy had higher prevalence in wrist/hand (65%) and neck (20%) with an average intensity of 4.58 according to VAS

Table 3

Region	Percentage
Neck	5%
Shoulder	3%
Upper back	2%
Elbow	75%
Knee	5%
Lower back	6%
Wrist/hand	2%
Calf	2%

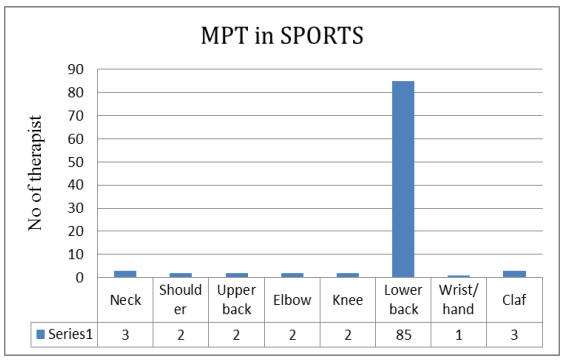


Graph 3

Interpretation: Physiotherapist who had done masters in Cardiorespiratory physiotherapy had higher prevalence in elbow (75%) with an average intensity of 4.56 according to VAS

Table 4

Region	Percentage
Neck	3%
Shoulder	2%
Upper back	2%
Elbow	2%
Knee	2%
Lower back	85%
Wrist/hand	1%
Calf	3%

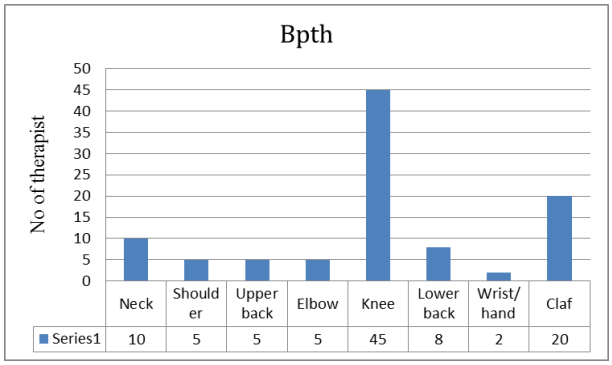


Graph 4

Interpretation: Physiotherapist who had done masters in Sports physiotherapy had higher prevalence in lower back (85%) with an average intensity of 5.68 according to VAS

Table 5

Region	Percentage
Neck	10%
Shoulder	5%
Upper back	5%
Elbow	5%
Knee	45%
Lower back	8%
Wrist/hand	2%
Calf	20%

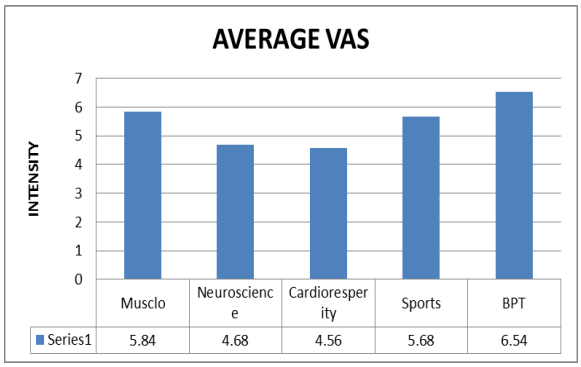


Graph 5

Interpretation: Physiotherapist who were bachelors had higher prevalence in knee (45%) and calf (20%) with an average intensity of 6.54 according to VAS

Table 6

Specialisation	Average intensity of pain
Musculoskeletal	5.84
Neuroscience	4.58
Cardiorespiratory	4.56
Sports	5.68
Bachelors of Physiotherapy	6.54



Graph 6

Interpretation: the graph shows the average intensity of pain among the physiotherapist according to their work and specialization that was measured according to VAS

DISCUSSION

Information that was obtained from this study indicates that WRMDs were common.

The present study revealed the work related musculoskeletal disorders among the physiotherapist in India according to their specialisation and its intensity.

A cross sectional study was conducted among the doctors in Mangalore in 2014 which stated prevalence of work related musculoskeletal problems in doctors according to their work Participants were physician (13.3%), surgeon and orthopaedist (each 12.8%), gynaecologists (11.7%), physiotherapist (7.4%), otolaryngologist and paediatrician (each 6.4%), anaesthetist (5.9%), dermatologists (4.8%), psychiatrist and radiologist (each 4.3%), cardiologist and ophthalmologist (each 3.7%), and oncologist (2.7%).[9]

Physiotherapists are believed to have been the first practitioners of physical therapy, advocating massage, manual therapy, techniques and hydrotherapy, Gymnastic to treat people. Physical therapist experience pain due to many factors, such as Activities those includes Performing manual orthopedic techniques and the sites involved are Neck, shoulder.[1]

Work– related musculoskeletal disorders are the most common cause of chronic pain and physical disability that affect contemporary workforces. Musculoskeletal injuries are considered one of the largest health problems among physiotherapists, because the nature of the work that therapists expose themselves to has a high risk of pain.[3]

Physiotherapist who had done masters in Musculoskeletal showed high prevalence in shoulder region (50%) and neck region (30%) and also other regions were involved and those who had done masters in Sports showed higher prevalence in lower back region (85%).

This result may be related to a higher use of manual therapy techniques. Manual therapy has been implicated as a risk factor for WRMD, and physiotherapists who routinely performed manual therapies were 3.5 times more likely to have had musculoskeletal injuries than physical therapists that did not routinely perform manual therapist.[2]

The lower back region was the most common site for WRMDs among physiotherapists in this study, followed by neck and thoracic region. Same result were found in previous studies that prevalence of WRMDs, the most common site was low back pain(51.7%) followed by the neck (46.5%) and the thoracic region (44.8%) (1,9). The cause of the high incidence rate of low back injuries among PTs is directly related with patient care activities, such as lifting and transferring patients, prolong standing, frequent twisting and bending.(15). The major risk factors that we found in our study for WRMDs are performing same task again and again, treating large numbers of patients in a day, not enough rest breaks between treatment, performing manual therapy technique, reaching away from body, banding or twisting your back, lifting and transferring patients and working at physical limit.[3]

The above claim is supported by our study because the physiotherapists who reported WRMDs were involved in manual therapy techniques (58.6%), such as mobilizations, manipulations and massage, and lifting or transferring activities (41.3%) were the two most likely contributing factors to WRMDs. There is a possibility that the results suggesting that manual therapy was a contributor to WRMDs among physiotherapists in this study were based on the stress to the spine due to prolonged standing while performing the task rather than the stress to the hands.[2]

Those who had done masters in Neuroscience showed high prevalence in wrist\hand (65%) and neck region (20%).

Wrist/hands, thumbs incorrect position or posture that can cause pain while treating number of neurological patients. Lifting or transferring dependent patients causes Low back pain, assisting patients during gait activities carrying, lifting, or moving heavy materials or equipment.

In the paediatric specialty, all reported work-related injuries during the past 12 months and 66.7% of the musculoskeletal physiotherapists reported WRMDs during the same period.(9) In our study we found maximum WRMDs in paediatric physical therapist and neurological physical therapist and those who are using manual therapy technique every day the most common site was low back pain(51.7%) followed by the neck (46.5%) and the thoracic region (44.8%).[3]

A substantial number of respondents reported WMSDs the lower back region was the most common site for WRMDs among Egyptian paediatric physical therapist (67.9%) followed by neck region (63.2%), shoulder (58.5%), hand/wrist (56.6%) and then knee region (53.8%).[7]

Those who had done masters in Cardiorespiratory showed higher prevalence in elbow region (75%) and also other sites were involved Analysis of WRMDs in terms of the subgroups of clinical placements showed that the incidence of WRMDs was highest among therapists working in paediatric areas (87.5%). The other clinical areas that reported higher rates of WRMDs were cardiopulmonary practice (71.4%), neurology (70%) and musculoskeletal physiotherapy (71.4%).[2]

Those who were Bachelors' in physiotherapist reported prevalence in neck region (10%), knee region (45%), and calf region (20%). Treating a large number of patients

per day, performing same tasks over and over, performing manual therapy techniques and working in the same position for a long period, in this order, are across cutting job tasks or work factors that respondents in the present study commonly identified as contributing to the development of WRMDs. In previous studies investigations revealed similar results.

Up to 90% of PTs have WMSD during their careers; 50% experience WMSD within 5 years of practice. Low back was the body part most commonly affected. Female PTs and PTs working in hospitals have higher prevalence of WMSD.[5]

To avoid symptoms of WRMDs, respondents commonly associated with modifying patients position or his position, selecting techniques that will not aggravate or provoke his discomfort, adjusting plinth or bed height before treating a patient, getting someone else to handle a heavy patient, stopping a treatment if it causes or aggravates or provokes his discomfort and pausing regularly so that he can stretch and change posture while treating patients.

The strategies must be focused on use of aids and self protective strategies such as modification of technique or the environment.

Such as Organisational strategies, Workload or work allocation, Work Practices, Work Environment and Equipment, Physical Condition and Capacity, Education and training [6]

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