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Musculoskeletal Pain among School and University Female Teachers

Singh Meenakshi*, Sharma Bindu**

Absract

Background and Introduction: Musculoskeletal pain is a known consequence of repetitive strain, overuse, and work-related musculoskeletal disorders. These injuries include a variety of disorders that cause pain in bones, joints, muscles, or surrounding structures. Despite increases in women's labour force participation, gender differences in work-related health conditions have received little research attention. The study was designed to give an estimation of the proportion of female teachers with chronic pain who appear to be seriously handicapped by their pain on one moment and the extent to which pain can lead to disability, to loss of working days, to premature incapacity, or to unnecessary medical treatment. *Methodology*: A sample size of 70 out of which 35 teachers from school and 35 from university In the age group of 25-45yrs were included in the study. Other criteria for inclusion were chronic musculoskeletal pain in knee, back, shoulders, neck; BMI - normal (18- 24.9); Pain due to exertion, ergonomics or overuse; job duration > 5yrs. Musculoskeletal pain assessed using Nordic pain questionnaire Whereas the disability was assessed using patient specific functional scale. *Results*: The results indicated that there is a negative correlation between the intensity of pain and disability among school as well as among the university female teachers. (r= -1.99) *Discussion*: The study concluded that there is a negative correlation between the intensity of pain and disability at work among school and university female teachers and there is a high prevalence of disability among the high school teachers due to the musculoskeletal pain as compared to the middle school and the university female teachers.

Keywords: Musculoskeletal Pain; Disability; Work Related Health Disorder.

Background & Introduction

Musculoskeletal pain is a known consequence of repetitive strain, overuse, and work-related musculoskeletal disorders. These injuries include a variety of disorders that cause pain in bones, joints, muscles, or surrounding structures. Low back pain is the most common example of chronic musculoskeletal pain. Employed women are at an increased risk for upper limb musculoskeletal disorders and this may tell us the way work and family life shape health. Musculoskeletal pain from overuse affects 33% of adults and accounts for 29% of lost workdays due to illness [1].

Author Affiliation: *Assistant Professor , **Physiotherapy Student, Amity Institute of Physiotherapy, Amity Institute of Physiotherapy, F1, LGF, Sector 125, Noida, UP.

Reprint Request: Singh Meenakshi, Assistant Professor, Amity Institute of Physiotherapy, F1, LGF, Sector 125, Noida, UP.
E-mail: msingh@amity.edu

Employed women are at an increased risk for upper limb musculoskeletal disorders and this may tell us the way work and family life shape health. The gender difference in symptom severity was explained by risk factors at work (repetitive work, poor ergonomic equipment), and at home (having less opportunity to relax and exercise outside of work). Changes in the nature of work mean that more and more employees, especially women, use computers for significant parts of their workday. The sex-segregation of women into sedentary, repetitive and routine work, and the persisting gender imbalance in domestic work are interlinking factors that explain gender differences in musculoskeletal disorders [1].

Musculoskeletal pain from overuse affects 33% of adults and accounts for 29% of lost workdays due to illness.Low back pain is most prevalent and most common work-related injury in Western society and it is the most costly work-related musculoskeletal disorder.While incidence rates for overexertion injury due to lifting are 1.3 times greater in males, rates are

higher in females for the following conditions: 3.0 times greater for carpal tunnel syndrome, 2.3 times greater for tendonitis, and 2.0 times greater for injuries caused by repetitive motion.The economic burden of musculoskeletal pain is second only to that of cardiovascular disease [1].

Pengying yue et al.(2012) observed that NSP and LBP are common among teachers. There were strong associations with different individual, ergonomic, and occupational factors [13].

De zwart BC et al.(1997) observed that Middle aged and younger employees develop musculoskeletal complaints as a result of exposure to heavy physical work. In the oldest age group health related selection seems to mask the occupational health risks under study. To prevent the expected increase in musculoskeletal disorders and related work disability in our aging workforce, preventive measures should be taken at all stages of a working life [14].

Patience N.eric et al.(2011) observed that Overall, this study suggests that school teachers are at a high risk of MSD. Further research, preferably longitudinal, is required to more thoroughly investigate the issue of MSD among teachers, with a greater emphasis on the possible wider use of ergonomic principles. This would represent a major step forward in the prevention of MSD among teachers, especially if easy to implement control measures could be recommended [15].

Ko matsudaira et al.(2013) observed that Workaholism is significantly associated with poor psychological health, disabling back pain, and sickness absence, particularly from mental health problems. Therefore, workaholism must be considered when addressing well-being of workers [16].

Despite increases in women's labour force participation, gender differences in work-related health conditions have received little research attention. This appears be the first study to examine why employed women are much more likely than men to experience upper body musculoskeletal disorders.

The aim of the study was to study musculoskeletal pain among school and university female teachers, to compare the pain among the two groups and to correlate the intensity of pain and disability

Methodology

Study Design

A cross sectional study to assess musculoskeletal pain disorders among school and university female teachers in Delhi and NCR region.

Questionnaires were translated in English. Some linguistic modifications of questions were made to avoid confusion about questions to make it easier for better understanding and interpretation of the participant. A written informed consent was obtained from the participants after explaining objectives of the study to them.

Study Population and Sample

Total sample of 70 out of which 35 teachers from school and 35 from university were included.

Place of Data Collection

schools and university in Delhi and NCR region.

Inclusion criteria-

1. Symptoms of chronic non specific musculoskeletal pain in knee, back, shoulders, neck for last 2-5 years.
2. Subjects aged b/w 25 to 45yrs.
3. BMI - normal (18- 24.9)
4. Job duration > 5yrs

Exclusion Criteria

1. Pain as a consequence of a defined disease such as cancer and RA
2. Any neurological pain.
3. Surgery in last 6 months.

Questionnaire used

Nordic musculoskeletal pain questionnaire and patient specific functional scale.

Procedure

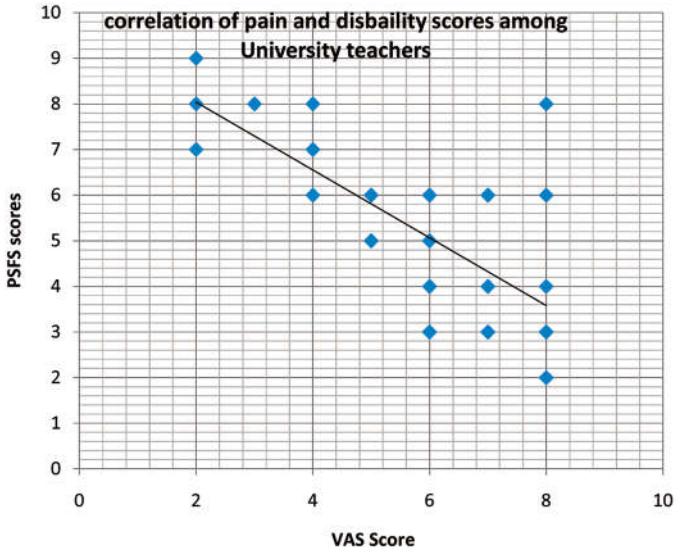
Teachers from school as well as university was selected as per the systematic randomized sampling. Total 70 teachers were selected as per the inclusion criteria. The objective and the significance of the study were explained .Musculoskeletal pain was assessed using Nordic pain questionnaire. Whereas the disability was assessed using patient specific functional scale. The data was recorded in the assessment sheet and data collection form and tabulated for analysis.

Results

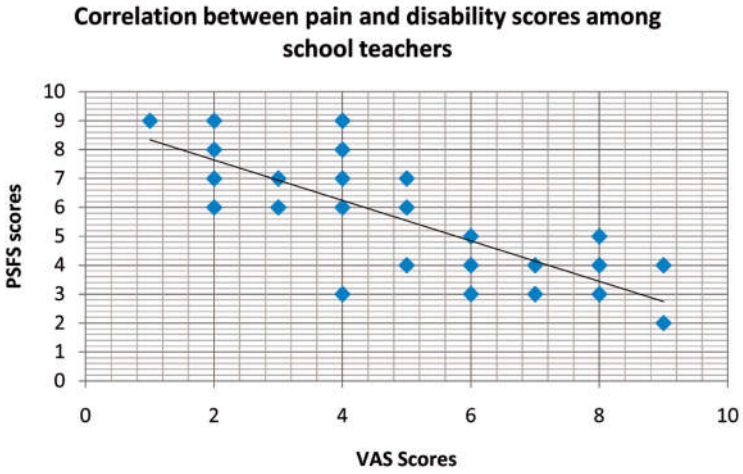
The results indicated that there is a negative

correlation between the intensity of pain and disability among school as well as among the university female teachers.

Pearson's correlation test was applied to find the correlation between pain and disability scores of university teachers and school teachers was r= -1.994 and r= -0.7756. Both the results were statistically insignificant (p> 0.05).



Graph 1: Correlation between pain and disability scores among university teachers



Graph 2: Correlation between pain and disability scores among university teachers

Discussion

Musculoskeletal pain is a known consequence of repetitive strain, overuse, and work-related musculoskeletal disorders. These injuries include a variety of disorders that cause pain in bones, joints, muscles, or surrounding structures. Low back pain is the most common example of chronic musculoskeletal pain [1]. Musculoskeletal pain from overuse affects 33% of adults and accounts for 29% of lost workdays due to illness. Low back pain is most prevalent and most common work-related injury and it is the most costly work-related musculoskeletal disorder [1].

The pathophysiology of musculoskeletal pain is not completely clear, but inflammation, fibrosis, tissue degradation, neurotransmitters, and neurosensory disturbances have been implicated [2]. Symptoms are exacerbated by work-related or personal stress, for example, poor control over one's work,difficult relationships, and time pressure [2].

The most prevalent pain was musculoskeletal pain (back pain and joint pain), although headache and abdominal pain were also frequently mentioned [2]. The MSD is one of the leading causes for ill health retirement among school teachers [3].

Epidemiological studies have demonstrated that factors such as gender, age, length of employment and awkward posture are associated with higher MSD prevalence rates among teachers [4]. Sunisa and Pornnapa pointed out that among workers including teachers prolonged posture, static works and repetition are the cause of repetitive strain injuries (RSIs), which is one type of MSDs that directly affect the area of upper limb, neck, shoulder and low back [5].

Activities of sustained sitting of frequent reading, marking of assignment and in front of computer, standing up teaching in class, repetitively overhead writing on board are also unsafe act and favorable to the development of NSP, LBP and upper limb pain which found in teachers [6,7,8].

Studies have also confirmed that sitting for more than 3 hours daily could be a risk factor for LBP [9,10]. But Lis and colleagues, in their systematic review, found that sitting itself does not increase the risk of LBP, but sitting for more than half a workday, combined with whole-body vibration and/or awkward postures, does increase the likelihood of having LBP, and it is the combination of those risk factors that leads to the greatest increase in LBP [11].

One of the reasons could be that senior middle school teachers have to deal with more examinations and are under higher pressure to graduate students. So they experience more psychological stress and a higher work load than others. In the present study, teachers who worked in senior middle schools also had the highest work load in comparison to those who worked in other levels of schools. Emotional exhaustion correlates with the high numbers of weekly lessons [12].

Work activities that involve heavy lifting, awkward postures, bending, twisting or stooping, prolonged sitting or standing and repetitive motions may contribute to the development of MSD.

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