



Prevalence Of Neck, Upper Back And Chest Musculoskeletal Symptoms Among Medical Students in Ebonyi State

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ABSTRACT

Patterns of Musculoskeletal symptoms have been reported among student populations. The prevalence of neck, upper back and chest musculoskeletal symptoms was studied among medical students. A 23-point questionnaire was distributed to the students. 247 were returned and analyzed. Results showed that 83.4% reported symptoms of Musculoskeletal pains in the neck (46.6%), upper back (42.7%) and chest (25.7%). There was no correlation between their occurrence and age, sex and working hours. Only chest pain was related to type of chair used by students (P=0.036). These results suggest that there is a relatively high prevalence of Musculoskeletal symptoms among medical students, which is related to stress and postural discomfort. Efforts should be made by medical schools to improve on the quality of learning environment and incorporate ergonomic principles to the medical curriculum.

Keywords: Musculoskeletal symptoms, medical students, neck pain, upper back pain, chest pain.

Work related musculoskeletal disorders are a group of syndromes characterized by soft tissue discomfort caused or aggravated by work place exposure (Pike et al, 1997). Several studies have investigated the pattern of musculoskeletal disorders associated with numerous occupations (Miur et al, 1996; Ezeonu et al, 2005; Michael et al, 1997). These patterns range from upper extremity symptoms (Zakaria et al, 2002) to back pain (Punnet et al, 2005) and neck pain (Woods, 2005) etc.

Risk factors for the occurrence of work related musculoskeletal disorders have been suggested to include repetitive movement, static postures, static muscular activation pattern (Jensen et al, 1998; Yu and Wong, 1996), physical and work load (Alexopoulos et al, 2004).

The focus on research has been on musculoskeletal disorders of workers in offices and industries but evidence has shown that high school students are equally at risk (Ehrmann Feldman et al, 2002). Also Tezel et al (2005) reported musculoskeletal disorders among Turkish dental students. This study reports the prevalence of musculoskeletal disorders of Neck, Upper back and Chest among medical students in Ebonyi State University, Abakaliki, Nigeria. The students were chosen because they

are believed to have much academic workload and poor facilities for reading.

MATERIALS AND METHODS

A questionnaire was passed round among 300 medical students at three (3) levels of study second, third and fourth years respectively in Ebonyi State University Medical College, Abakaliki Nigeria. The questionnaire contained information such as sex, age, weight, height, average working/reading hours per day and type of chair used for academic work. Other information were anatomical regions where symptoms were experienced (Neck, Upper back and chest), possible reasons for the symptoms, their involvement in leisure and whether they had sought medicare in relation to the experienced symptoms. 268 respondents returned their questionnaires out of which twenty-one (21) were excluded due to observed inconsistencies and mutilation. The remaining 247 were analyzed for results.

RESULTS

83.4% (n=206) of medical students reported symptoms of musculoskeletal pain. The prevalence of symptoms for the different anatomical regions showed that Neck pain (46.6%) was the most prevalent. This was followed by Upper back pain (42.7%) and Chest

pain (25%) respectively. There was no correlation between age, sex, and average working/reading hours per day and prevalence of pain in the anatomical regions. Pearson's correlation results showed that there was a strong relationship between neck and upper back pains (p-value- 0.00 at 0.01 level of significance). There was no relationship between neck and chest pain pains (P value-0.020); and between upper back and chest pains (p value-0.041). Correlation between anatomical regions of pain occurrence and the types of chairs used by the students evinced that only chest pain was correlated (p value-0.036). Also, a total number of 53 (27.6%) students who had musculoskeletal symptoms had sought for medical treatment.

DISCUSSION

Musculoskeletal symptoms with no underlying identifiable pathology is a management puzzle to medical professionals following their increasing occurrence in different occupations (Lemasters et al, 1998; Larson et al, 1993; Margolis and Kraus, 1987). The results from this investigation show that a great number of medical students (83.4%) are affected by musculoskeletal symptoms as against same population in the USA (71%) (Rising et al, 2005). This may imply a low socioeconomic status and a poor learning environment of the average Nigerian student.

The prevalence of neck pain as the highest (46.6%) is in line with studies conducted among Chinese High School Students where neck pain was the most prevalent (56%) (Cho et al, 2003). The high prevalence could be associated with much reading approach because reports from a Chinese population showed that subjects with neck pain spent much of their time reading (Lau et al, 1996).

Also, the observed high prevalence of upper back pain (42.7%) is possibly linked to its correlation with neck pain. This correlation could be due to the direct anatomical link between the neck and upper back where muscles like trapezius, the Scalene muscles, Rhomboidus major and minor traverse to the neck from the upper back. Consequently, there is an indirect concerted effort by the musculoskeletal

components of the neck and upper back to keep the head steady, permitting its vertical and horizontal scanning which is superbly adopted for eye head coordination (Rabischong 1992).

The occurrence of chest pain (25.7%) was posture related and showed high correlation with the type of chair used. Since most of the students used stationary and hard chairs (80.6%) for academic work, it could be that constant adjustment of posture due to seat discomfort triggers pain in the chest region. This also follows that the non-relationship observed between pain in anatomical region and age, sex and average working/reading hours was not disjunctive since the level of comfort and the resulting postural inclinations of the students are the major factors. Also, a survey carried out by Yu and Wong (1996) on the prevalence of Back, Neck and other pains showed that the pains were more related to unfavorable working postures and possibly, chest pain may not be an exception.

A greater number of the students (26.8%) attributed the cause of musculoskeletal symptoms to stress related work overload. This is possibly, a consequence of pressure on students for high demand of mental attentiveness and precision characterized by medical training. This stress related work overload, may if not checked, lead to a psychological distress, which has been proved to be associated with the prevalence of musculoskeletal symptoms (Cho et al, 2003, Akpa & Afoke 2005).

With the knowledge of the prevalence of these musculoskeletal symptoms among medical students of the Ebonyi State University, it is advised that medical schools should provide a more comfortable learning environment for students. This may be effective in decreasing the prevalence of musculoskeletal symptoms among the students and also ergonomic reading principles should be introduced to the students' curriculum with a view to develop better working/reading habits.

Table 1: % Prevalence of Body Pains

	Upper back		Neck		Chest	
Yes	88	42.7%	96	46.6%	53	25.7%
No	118	57.3%	110	53.4%	153	74.35%

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