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MUSCULOSKELETAL DISORDERS IN BODY OF A LECTURER-A REVIEW

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ABSTRACT

Musculoskeletal disorders related to work and deemed compensable have become a major public health problem in industrialized countries. Those involved in workplace health are being pressed to provide answers to a broad range of questions concerning the development and control of musculoskeletal problems. School teachers are among the group which appears to suffer from MSDs. Due to long work hours, dissatisfaction from work, work environment, stress, low family and community support are related to Musculoskeletal disorders (MSDs). The teachers reported respectively musculoskeletal pain at specific body parts like eyes, neck, throat shoulder, back, hand, and legs. The future education professional should be informed about the musculoskeletal risks associated with their future occupation.

This article presents the survey of studying multi criteria Musculoskeletal disorders related to work. The researchers wanted to find out the musculoskeletal disorder among the school teachers residing in various nations and give recommendations for the teachers. The researcher had gathered information from primary and secondary sources regarding the books and researches published on teachers and prevalence musculoskeletal disorder published in various nations. The findings reviled that, the school teachers of various nations, have demonstrated relative to other occupational groups, a high prevalence of MSD. The need to consider Musculoskeletal disorders related to work for teachers has been stressed in the literature.

INTRODUCTION

Musculoskeletal disorders (MSD) are injuries and disorders of the musculoskeletal system where exposure to various risk factors present in the workplace may have either contributed to the disorder's development, or aggravated a pre-existing condition. Ergonomics can be defined simply as the study of work. More specifically, ergonomics is the science of designing the job to fit the worker, rather than physically forcing the worker's body to fit the job. Adapting tasks, work stations, tools, and equipment to fit the worker can help reduce physical stress on a worker's body and eliminate many potentially serious, disabling work related musculoskeletal disorders (MSDs). Musculoskeletal disorders (MSDs) are put into different categories according to pain location. One category is upper limb disorders which include any injury or disorder

located from fingers to shoulder or the neck. Another category of musculoskeletal pain disorder is lower limb disorders which include injury and disorders from hips to toes. Possibly the most common MSD is back pain. MSDs can affect the body's muscles, joints, tendons, ligaments, and nerves. Most work-related MSDs develop over time and are caused either by the work itself or by the employees' working environment. They can also result from fractures sustained in an accident. Health problems range from discomfort, minor aches, and pains, to more serious medical conditions requiring time off work and even medical treatment. In more chronic cases, treatment and recovery are often unsatisfactory, and the result could be permanent disability and loss of employment.

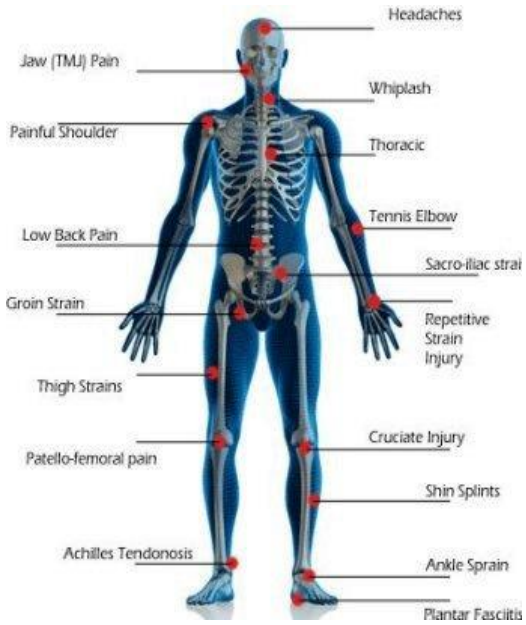

Fig. 1 Pain in body parts

Teachers teach multiple courses and have no time to learn specialized knowledge, such as physiological bending of the human spine, correct posture to use at a computer, correct posture for working at a desk, optimal elbow angle for typing at a computer, or optimal angle between monitor and sight line when using a computer. This would indicate that long-term specialized training for WMSD-related prevention should be considered in the future. WMSDs are chronic cumulative occupational injuries. Teachers need long-term cumulative formation and reinforcement of proper habits to change their behavior, as subject initiative plays an important role. There are different patterns of musculoskeletal diseases among men and women, probably reflecting their segregation in different sectors and jobs.

LITERATURE

Musculoskeletal complaints, especially of the lower back, neck and shoulders, are also common among teachers due to prolonged desk work, prolonged standing in class and repetitive overhead writing on the board, prolonged sitting resulting from frequent reading, preparation of lessons and marking of assignments, and working on a computer. [3][5] Most work-related MSDs develop over time and are caused either by the work itself or by the employees' working environment. They can also result from fractures sustained in an accident. [2] Physical pain can be a constant in the life of the education professional, especially musculoskeletal pain, mainly due to excessive workload by physical exertion performed daily in schools. [6] If there is not enough time for recovery, pain symptoms that account for the high levels of absenteeism due to health conditions in this group of workers are triggered or prompted. Thus, teaching leads to stress, with consequences to physical and mental health and with an impact on professional performance. [12] High strain work was related to an increased risk of developing shoulder and low back symptoms, irrespective of the level of social support. [7]

Teachers who sat in the small sized chairs frequently exhibited excessive low back kyphosis and difficulty in rising from the low sitting position. It is known that rising from a position of extreme knee flexion imposes substantial stresses on the ligaments of the knees. [8] Preventive measures to sustain and promote work ability should be both relationship and behaviour related and they should not only concentrate on work-related risks, but also on resources. Measures should focus on an ideal design of work load and gratification, but also on interventions in the individual health behaviour. e.g. diet, exercise, stress prevention. [9] Measures for

preventing a decline of work ability of teachers with increasing age should focus on detecting the reasons of their health complaints, on achieving appropriate work demands in the everyday working life. [10] The result of this study also confirmed the greater risk of LBP occurrence in teachers who had prolonged sitting, prolonged standing, long period of working hours with computer, and correcting examination papers. Finding of this study demonstrated that teachers preferred to have rest and daily sports activity in order to relieve their pain intensity. [11]

Table 1 shows Tools and Techniques used by various authors

SR. NO.	AUTHOR NAME	TOOLS & TECHNIQUES	CONCLUSION
1	Jian Shuai, Pengying Yue, LipingLi, Fengying Liu, and Sheng Wang-2014	Self-administered questionnaire, MSDs	This study provides evidence on the effectiveness of a multifaceted ergonomic intervention program designed to reduce musculoskeletal symptoms in teachers.
2	Magdy A. Darwish and Shatha Z. Al-Zuhair-2013	Standardized Nordic questionnaire, MSDs	This paper addresses about modifiable personal and environmental factors provide the opportunity to apply appropriate interventions to reduce the risk of long-term disability. Measures to decrease high prevalence of MSDs among teachers should be implemented to improve their status and avoid harmful and poor impact on their personal and work productivity.
3	Patience N Erick and Derek R Smith-2011	Self-administered questionnaire, t-test and Chi-squared test, MSDs	This paper present A wide variety of LBP risk factors were identified during logistic regression analysis, suggesting that etiology of this condition is complex and multi factorial in nature. The complex nature of LBP risk factors found in this study suggests than no single specific preventative or intervention strategy will help in reducing these conditions.
4	Durmus D, Ilhanli I-2012	MSDs, Face-to-face questionnaire, Beck Depression Inventory, BDI, Visual Analogue Scale	This paper presents modifications of ergonomics in working conditions may reduce the frequency of these complications. The habit of carrying heavy loads, awkward back postures, long term repetitive physical activities, psychosocial stressors and long term standing must be reduced.
5	Pengying Yue, Fengying Liu, and Liping Li-2012	Demographic questionnaire, MSDs, Body mass index (BMI)	The prevalence of NSP and LBP among teachers in Punning is high and comparable to prevalence. Different

			individual, ergonomic, and occupational factors were important associations of NSP and LBP.
6	Tatiana Giovanelli Vedovatoand Inês Monteiro-2014	WAI multiple linear regression models, MSDs, questionnaire with socio-demographic data	This paper addresses being a teacher with permanent contract with more time (in years)of profession; having children, the presence of physical pain in the past six months, self-referred health compared with people of the same age as being poor/little poor and not sleeping well at night.
7	Pernilla Larsman and Jan Johansson Hanse. -2009	Longitudinal two-wave cohort study a questionnaire, Median split, MSDs	In this paper a case-based study to minimize the occurrence of musculoskeletal symptoms carried. It is therefore important to ensure that employees have adequate levels of decision latitude to keep the workload at optimal levels and to provide supervisor support and structures that facilitate coworker support.
8	Katharyn A. Grant, Daniel J. Habes and Allison L. Tepper -1995	Questionnaire, MSDs, measurements of workstation and furniture dimensions	The results of this investigation support the conclusion that preschool workers at this site are at increased risk of back and lower-extremity musculoskeletal disorders due to activities which require sustained periods of kneeling, stooping, squatting or bending.
9	R. Seibt T, L. Lqtzkendorf, M. Thinschmidt - 2005	Work Ability Index, Vitality Measurement, questionnaire, MSDs	The purpose of this paper is to address long work ability requires long health. Therefore, employees' health must be protected and promoted preemptively. Preventive measures to sustain and promote work ability should be both relationship- and behavior-related and they should not only concentrate on work-related risks, but also on resources.
10	Gabriele Freude, Reingard Seib, Eberhard Pech, Peter Ullsperger -2005	Life style analysis and work anamnesis, Work ability index (WAI), Effort – reward -imbalance (ERI), Relaxation inability (RI), Maslach Burnout Inventory, Measuring station of vitality	In this paper author present an measures for preventing a decline of work ability of teachers with increasing age should focus on detecting the reasons of their health complaints, on achieving appropriate work demands in the everyday working life. Specific

			actions for promotion work ability in teachers may represent an important objective for preventing teachers from early retirement.
11	Mohammad A. Mohseni Bandpei, Fatemeh Ehsani, Hamid Behtash and Marziyeh Ghanipour -2014	Face-to-face interview, questionnaires, Body mass index(BMI)	In this paper, author have discussed the importance of the prevalence of LBP in teachers appears to be high. High school teachers were more likely to experience LBP than primary school teachers. Factors such as age, body mass index, length of employment, job satisfaction, and work-related activities were significant factors associated with LBP in this teacher population.
12	Jefferson Paixão Cardoso and Isadora de Queiroz Batista Ribeiro-2009	Epidemiological study, socio-demographic questionnaires	The findings of the study strengthen the assumption that characteristics of certain work activities have negative effects on the health of workers. The teachers herein reported a high prevalence of musculoskeletal pain in upper limbs, lower limbs, and back. The association between socio-demographic and occupational factors was also analyzed.

DISCUSSION

Teachers are undoubtedly the role models for their students. They have a moral responsibility in the overall physical and mental development of their students. Teacher's job is not an easy one. They have to spend long hours for imparting quality education to the students. The teacher is forced to adjust in their existing work environment while teaching. The poorly designed work environment of the classroom might have a direct impact on the productivity of the teacher resulting in their poor health and quality of teaching. At the same time the teacher might also experience discomfort in the posture adopted by them while teaching, leading to several musculoskeletal disorders. If this situation is prolonged for longer span of time, it might have its serious consequences for the teacher as an employee and as well as for the students too.

CONCLUSION

In this paper we have provided an up to date review of literatures from various authors. The musculoskeletal disorders result from fractures sustained in accident which affect the back, neck, shoulders and upper limbs so the researcher recommends performing tasks without injuring one's self. Additionally, changes to the physical design of workstations and equipment items used by employees at the school were suggested to minimize the musculoskeletal stress associated with their use.

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