

## Association of Ergonomics and Musculoskeletal Disorder (MSD) among Primary and Secondary School Teachers in Shah Alam, Malaysia.

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### Abstract

Teachers who are working in primary and high school are at a risky occupational group that is usually affected by musculoskeletal disorder (MSD). However, the symptoms and severity for the affected teachers are less known as there is a lack of epidemiological studies on the prevalence of musculoskeletal symptoms among teachers. The main purpose of the study was to measure the awareness of ergonomics and MSD and to identify the association of MSD and working posture factors among school teachers in the city of Shah Alam, Selangor, Malaysia, as well as to identify the best preventive steps to be taken. This cross-sectional study was conducted among primary and secondary school teachers using questionnaire. The questionnaire was slightly modified using Standardized Nordic Questionnaire (SNQ) to evaluate pain on the neck, shoulder, hand, and elbow, upper and lower back pain. Two hundred and six out of 400 teachers responded to the questionnaire. A good number (61.9%) of primary school teachers were not aware about ergonomics and 53.8% of secondary school teachers were willing to admit they were not aware of ergonomics. Primary and secondary school teachers were slightly aware on MSD with 53.2% of primary school teachers and 67.5% of secondary school teachers. One or both knees pain were associated with school teachers ( $P=0.032$ ). School teachers were associated significantly with the working posture factors; standing for a long time during class sessions ( $P=0.001$ ), prolonged writing on the upper part of whiteboard or blackboard ( $P=0.035$ ) and improper height between chair and teacher ( $P=0.037$ ). In conclusion, the awareness of ergonomics and MSD among primary and secondary school teachers in Shah Alam, Malaysia, is poor and thus, educational programs on ergonomics and prevention of work-related musculoskeletal disorder introduced among primary and secondary school teachers would help to enhance work efficiency.

*Keywords:* Musculoskeletal disorder (MSD), Ergonomics, School teachers, Prevention, Primary school, Secondary school, Standardized Nordic Questionnaire.