

Physical Ergonomic Risk Factors and Work-Related Musculoskeletal Disorders Among Office Workers in Universiti Teknologi MARA Shah Alam

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Structured Abstract

Background: The prevalence of work-related musculoskeletal disorders (WMSD) has become significant among office workers in Malaysia. Due to the rapid growth of technology, the usage of computers in workstations has increased and workers spend much time at their workstations daily. Risk factors presence from office activities such as awkward posture, repetitive motion, static and sustained posture, and contact stress are highly associated with WMSD and cause discomfort to various parts of the body. The effects of WMSD have contributed to work absenteeism, poor life quality, work changes, increased work-related injuries and medical cost, and leads to permanent disability and affects employment and the company reputation.

Methods: This cross-sectional study aims to identify the ergonomic risk factors and work-related musculoskeletal disorders among 39 office workers from five Academic Affairs (*HEA*) offices in Universiti Teknologi MARA Shah Alam. Initial Ergonomic Risk Assessment (ERA) was conducted to identify reported body parts discomfort using Cornell Musculoskeletal Discomfort Questionnaire (CMDQ) and ergonomic risk factors presence among office workers were identified. Rapid Office Strain Assessment (ROSA) was used to quantify the exposure level of the risk factors presence.

Results: The age of office workers is 37.78 ± 7.47 years, where most of them have normal body mass index (BMI). Based on the CMDQ score, four body parts reported significant discomfort were lower back (618240), upper back (506131.5), neck (447963), left shoulder (252720) and right shoulder (240312). The physical ergonomic risk factors identified were awkward postures, static and sustained work posture, and repetitive motion. The final ROSA score was 6.00 ± 0.97 , indicates that the risk level is very high and immediate modification is necessary.

Conclusion: In conclusion, based on the findings, the recommendation for corrective actions include application of 5S system at workplace, usage of documents holder and proper ergonomic office chair, adjustment of the monitor height, and be trained on ergonomic at office workplace.

Keywords: Work-Related Musculoskeletal Disorders (WMSD), Initial Ergonomic Risk Assessment (ERA), Cornell Musculoskeletal Discomfort Questionnaire (CMDQ), Rapid Office Strain Assessment (ROSA).

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