

Assessment of Ergonomic Risk Factors and Musculoskeletal Disorder Among Automotive Workers Involve in Stamping in Shah Alam, Selangor.

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Structured Abstract

Background: This study consists of conducting an ergonomic risk assessment at one of the automotive manufacturing in Selangor, aims to identify the prevalence rates of musculoskeletal disorder (MSDs) and ergonomic risk factors among automotive workers involve in stamping activities. In addition, to determine the Rapid Upper Limb Assessment (RULA) grand score and hand-grip strength of the stamping workers. The sample size for this study was 60 stamping workers. The findings highlight the common risk factors such as static and sustained posture and repetitive motion that required to undergo Advanced Ergonomic Risk Assessment (ERA) for the selected stamping workers.

Methods: Stamping tasks was selected for evaluating the work posture of the workers by using Rapid Upper Limb Assessment (RULA). The RULA method used to identify the RULA grand score and its degree levels of risks among stamping workers. The Cornell Musculoskeletal Discomfort Questionnaire (CMDQ) was used to identify the prevalence rates of musculoskeletal discomfort among stamping workers.

Results: It was found that neck (83.33%), upper back (80%), and lower back (70%) were the three highest prevalence rates of discomfort among tamping workers. Besides, there were two risk factors that need to undergo advanced RULA which were static and sustained work posture and repetitive motion. The final RULA grand score obtained was 6.

Conclusion: In conclusion, neck, upper back, and lower back were the three highest prevalence rates of musculoskeletal discomfort among selected stamping workers. Besides, static and sustained work posture and repetitive motion were the risk factors that exceeded the minimum requirement of Initial Ergonomic Risk Assessment (ERA) and need to undergo RULA. The final RULA grand score obtained was 6, indicated medium risk, further investigation required, and improvement needed to the selected stamping worker.

Keywords: Musculoskeletal disorders (MSDs), Initial Ergonomic Risk Assessment (ERA), Advanced Ergonomic Risk Assessment (ERA), Cornell Musculoskeletal Discomfort Questionnaire (CMDQ), Rapid Upper Limb Assessment (RULA)

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