

Introduction of AHP Decision Model for Prioritizing Critical Risk of WMSD in the Automotive Working Environment

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ABSTRACT:

Work-related musculoskeletal disorders (WMSD) is one of the essential occupational diseases that is a frequent and prevalent pain complaint by automotive workers. The importance of decisions in WMSD risk factors is related to the type of job task and working environment. This paper introduces the AHP decision model as an ergonomics assessment tool to determine relative measures of significance and assess priority weights for different risk categories of WMSD. This paper broadly categorizes the identified risk factors for WMSD into individual, organizational, physical, and psychosocial factors. Organizational factors indicated the most critical ergonomics risk factors influencing WMSD growth among automotive component manufacturer workers. Meanwhile, exposure to physical demand at work (EPD) and high workload (HWL) are the most critical risk factors. Since the various risk factors occurring under each category may vary significantly from context to context, a practical method for assessing and determining some significance level is required. AHP analysis does this in WMSD risk factors in the automotive working environment and is used as an ergonomics assessment tool.

KEYWORDS:

Work-related musculoskeletal disorders (WMSD); Analytic hierarchical process (AHP); AHP decision model; Automotive industry

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