

ABSTRACT

Title: Study on Ergonomics Intervention Control for Manual Material Handling In Manufacturing Sector

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Abstract:

Numerous researchers have found that heavy physical demand and improper posture when performing the tasks in various sectors such as manufacturing and warehouse might contribute to the Musculoskeletal Disorders (MSDs) especially when the tasks involving lifting, pushing and pulling activities. In order to reduce high risk manual handling activities, effective and usable ergonomics intervention control should be introduced to lower the physical demand of Manual Material Handling (MMH) activities. In principle, this issue can be prevented by means of control measures at worksites and implementing good ergonomics practices. Scientific evidence shows that manual handling equipment (MHE) are one of the effective controls that can lower the physical demands of MMH activities. However, most of the MHE used for the manual material handling is not properly studied and are not evaluated in terms of effectiveness. A lot of factors such as ergonomics risk issues, work quality and productivity, working conditions and cost need to be taken into consideration when dealing with the usability of the MHE. This study aims to contribute toward the reduction of ergonomics issues for MMH activities by determining the existing MHE available at warehouse operation, comparing the level of usability and requirements for the MHE and lastly to evaluate the effectiveness of MHE used in warehouse operation based on ergonomics considerations which are low back disorder and muscle activities level. The findings show that there are a lot of MHE available and used in manufacturing warehouse operation but the provision and use of MHE has not guaranteed that the pain and discomfort level on the body are reduced. Based on an experimental design study, the use of pallet jack and load carrying cart still indicates the risk related to low back disorder and local muscle activities. In conclusion, most of the MHE available in manufacturing warehouse operation is not achieving the standard and satisfaction of workers. It is clear that the first stage in design criteria for MHE should be developing an understanding of the user usability requirements to ensure the aids are suitable for the tasks.