

ABSTRACT

FACTOR ANALYSIS OF PT. PELABUHAN INDONESIA III (PERSERO) CABANG TANJUNG PERAK CONTAINER CRANE OPERATOR MUSCULOSKELETAL DISORDERS COMPLAINTS

Container crane operator jobs majority was sitting, and bent to look down. This job was always done by the operator because the position operator cabin located at an altitude of 30-40 m. The purpose of this study was to analyzed the causes of musculoskeletal disorders operator of container cranes at PT. Pelabuhan Indonesia III (Persero) Branch of Tanjung Perak. The approach of this study was a quantitative research study with cross-sectional study design.

The results showed that analysis operator of anthropometric and body posture with RULA method showed that it needed further investigation of ergonomics and changes required for repair work postures with level action on the 4 scores. Most of the work stations that used by the operator did not complied with the operator anthropometry. The entire container crane had a working environment in accordance with the threshold value (28-32°C). Whole body vibration and HAV was still below the standard. Majority of Container Crane operator PT. Pelabuhan Indonesia III (Persero) Branch of Tanjung Perak have medium MSDS complaints. Conclusion: Incidence of musculoskeletal disorders (MSDs) were influenced by the age of respondents in range of 22.65 %, by the work period in range of 8 %, by smoking habits of the respondents in range of 14.1 %, by body mass index (BMI) in range of 12.6 %, by the work station in range of 2%.

Key word: Musculoskeletal disorders, RULA, Container Crane.

SUMMARY

FACTOR ANALYSIS OF PT. PELABUHAN INDONESIA III (PERSERO) CABANG TANJUNG PERAK CONTAINER CRANE OPERATOR MUSCULOSKELETAL DISORDERS COMPLAINTS

Musculoskeletal problems of container cranes operator caused annoyance on performance due to the awkward posture of the operator. When the posture formed by the existing of working methods were poor, it will cause musculoskeletal fatigue, that could potentially lead to a musculoskeletal disorder (MSDS). If the position of the workers always in unergonomic every day and in the long term (chronic) could cause permanent pain and led to damage to the muscles, joints, tendons, ligaments and other tissues. In addition, when employees, work with pain can reduce the productivity and efficiency of work and when worked with this pain was passed then it will result in a disability who eventually eliminate jobs for workers.

The purpose of this study was to analyzed the causes of musculoskeletal disorders operator of container cranes operator at PT. Pelabuhan Indonesia III (Persero) Branch of Tanjung Perak. Result of this study was be able to provide solutions for the problems, especially at the work station that support the position of the container crane operator properly.

The results showed majority age of respondents were 31-40 years, with respondents working terms majority was <5 years and 5-10 years. The majority of respondents had smoking habits with majority of respondents were normal BMI. Anthropometric analysis of operator and body posture with RULA method showed that it needed further investigation of ergonomics and changes required for repair work postures with level action on the 4 scores. Most of the work stations that used by the operator did not complied with the operator anthropometry. The entire container crane had a working environment in accordance with the threshold value (28-32 ° C). Whole body vibration still below the threshold value of 0.5 m/s². Hand arm vibration measurements showed that the exposure of hand arm vibration is still below the threshold value of 4 m/s². A cross tabulation shows that operators who have aged less than 40 years has more MSDs complaints, this could be due to the worker still adapting and with high work targets of the company, but because of data limitations the exact cause can not be known yet. Operators with working terms less than 5 and 5-10 years, has more complaints MSDs. Operators who had habit of smoking has more MSDs complaints compared with operators who do not had habit of smoking. majority of workers who have a poor work station that was not accordance with the operator's body, felt MSDs complaints.

Key word: musculoskeletal disorders, RULA, container crane.

KATA PENGANTAR

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Tesis ini berisikan mengenai hasil analisis penyebab keluhan *Musculoskeletal Disorders* pada operator *container crane*. Tesis ini bertujuan untuk melakukan analisis faktor penyebab keluhan *Musculoskeletal Disorders* pada operator *container crane*. Hasil penelitian ini akan digunakan sebagai bahan untuk melaksanakan tindak lanjut diperusahaan dalam peningkatan pelaksanaan K3.

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Surabaya, 22 April 2015

Penulis

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