

ANALISIS POSTUR KERJA DAN USULAN PERBAIKAN DENGAN PERANCANGAN ALAT PADA PEKERJA DI PABRIK KERUPUK ERNA MELALUI PENDEKATAN ERGONOMI

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ABSTRAK

Proses produksi industri kecil di Indonesia masih banyak yang menggunakan cara tradisional secara manual yang dilakukan oleh tenaga kerja manusia dalam proses produksinya, tepatnya di salah satu Pabrik Kerupuk di Bekasi. Permasalahan ditemukan pada pekerja di bagian pemindahan kerupuk hasil kukus dari rak kukus ke tempat wadah tradisional lalu dipindahkan ke tempat penjemuran sejauh ± 10 meter, pekerja tersebut melakukan pekerjaan secara berulang-ulang dan bolak-balik dengan postur yang tidak ergonomis sehingga menyebabkan kemungkinan tinggi adanya risiko *musculoskeletal disorder*. Pada penelitian ini dilakukan analisis postur kerja menggunakan model *virtual environment* melalui metode *Nordic body Map*, *Rapid Entire Body Assessment* dan *Posture Evaluation Index* serta akan memberikan usulan perbaikan dengan perancangan alat bantu rak troli lipat untuk mengurangi adanya risiko tersebut. Setelah dilakukan analisis postur kerja, didapatkan hasil REBA dan PEI awal sebesar 14 dan 3,34 yang berarti risiko cedera pada aktivitas pekerjaan tersebut sangat tinggi. Kemudian dibuat hasil rancangan alat bantu rak troli lipat dengan dimensi 196 x 93 x 103 cm dengan 4 rak susun adjuster yang dapat dilipat. Didapatkan hasil analisis REBA dan PEI setelah menggunakan rancangan alat sebesar 5 dan 1,22 yang berarti mengalami adanya penurunan risiko dari kategori sangat tinggi ke tingkat sedang.

Kata Kunci: Ergonomi, *Musculoskeletal Disorder*, *Virtual Environment*, *Nordic body Map*, *Rapid Entire Body Assessment*, *Posture Evaluation Index*, Antropometri.

WORK POSTURE ANALYSIS AND PROPOSED IMPROVEMENTS WITH EQUIPMENT DESIGN FOR WORKERS IN ERNA KERUPUK FACTORY THROUGH ERGONOMIC APPROACH

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ABSTRACT

There are still many small industrial production processes in Indonesia that use the traditional manual method carried out by human labor in the production process, to be precise at one of the cracker factories in Bekasi. Problems were found in workers in the section of transferring steamed crackers from the steamer rack to traditional containers and then moving to a drying area for ± 10 meters, these workers did the work repeatedly and back and forth with non-ergonomic postures, causing a high possibility of musculoskeletal disorders risk. In this study, an analysis of work posture is carried out using a virtual environment model through the Nordic Body Map, Rapid Entire Body Assessment and Posture Evaluation Index methods and will provide suggestions for improvement by designing a folding trolley rack to reduce this risk. After analyzing the work posture, the initial REBA and PEI results were 14 and 3.34, which means the risk of injury in these work activities is very high. Then made the designed a folding trolley rack with dimensions of 196 x 93 x 103 cm with four collapsible adjuster shelves. The results of the REBA and PEI analysis after using the tool design are 5 and 1.22, which means that there is a decrease in risk from the very high category to the medium level.

Keyword: Ergonomic, Musculoskeletal Disorder, Virtual Environment, Nordic body Map, Rapid Entire Body Assessment, Posture Evaluation Index, Anthropometry.