

ABSTRAK

Kegiatan produksi furniture pada UD. Nencshop masih memanfaatkan fasilitas kerja yang kurang sesuai prinsip ergonomi, sehingga menimbulkan keluhan *musculoskeletal disorders* (MSDs) pada pekerja. Tahapan penghalusan serta pemotongan kayu memperlihatkan postur tubuh membungkuk dan menunduk dalam waktu cukup lama, yang diidentifikasi melalui kuesioner *nordic body map* (NBM) dan metode *rapid entire body assessment* (REBA). Hasil penilaian awal menunjukkan bahwa proses pemotongan memiliki tingkat risiko sedang hingga tinggi. Penelitian ini dilakukan untuk melakukan perancangan ulang fasilitas kerja menggunakan pendekatan ekonomi gerakan dan antropometri, dengan tujuan menurunkan keluhan fisik pekerja dan meningkatkan efektivitas kerja. Dimensi antropometri pekerja dimanfaatkan dalam menentukan ukuran fasilitas kerja, kemudian diuji melalui simulasi manekin untuk mengevaluasi perubahan postur tubuh. Hasil redesain menunjukkan adanya penurunan skor REBA serta berkurangnya keluhan MSDs berdasarkan NBM setelah bekerja. Perbaikan desain meja potong juga meningkatkan kenyamanan operator dan mendukung kelancaran proses produksi. Dengan demikian, penerapan desain ergonomis dinilai mampu memperbaiki kondisi kerja pada proses produksi *furniture* UD. Nencshop serta dapat dijadikan rekomendasi desain fasilitas kerja bagi industri serupa.

Kata Kunci: Ergonomi, Antropometri, Redesain fasilitas kerja, REBA, *Nordic body map* (NBM), *Musculoskeletal disorders* (MSDs), Ekonomi gerakan.

ABSTRACT

Furniture production activities at UD. Nencshop still utilize work facilities that do not comply with ergonomic principles, resulting in musculoskeletal disorders (MSDs) among workers. The wood-grinding and cutting stages involve prolonged hunched and bent-over postures, identified using the Nordic Body Map (NBM) questionnaire and the Rapid Entire Body Assessment (REBA) method. Initial assessment results indicated that the cutting process carries a moderate to high risk. This study aimed to redesign work facilities using a motion economy and anthropometric approach, with the goal of reducing worker physical complaints and increasing work effectiveness. Worker anthropometric dimensions were used to determine the size of the work facilities, then tested using a mannequin simulation to evaluate changes in body posture. The redesign results showed a decrease in REBA scores and a reduction in MSD complaints based on the NBM after work. Improved cutting table design also increased operator comfort and supported a smooth production process. Therefore, the application of ergonomic design is considered capable of improving working conditions in UD. Nencshop's furniture production process and can be used as a recommendation for work facility design for similar industries.

Keywords: *Ergonomics, Anthropometry, Work facility redesign, REBA, Nordic body map (NBM), Musculoskeletal disorders (MSDs), Movement economy.*