

**ANALISIS PENGARUH BEBAN KERJA FISIK TERHADAP
KELELAHAN KERJA PADA PEKERJA PRODUKSI DI PT UNICON
SEJAHTERA MANDIRI**

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INTISARI

Latar Belakang: Beban kerja fisik berlebih menjadi penyebab utama kelelahan kerja yang berdampak pada produktivitas, risiko kecelakaan, dan kesehatan pekerja. PT Unicon Sejahtera Mandiri sebagai produsen beton pracetak memiliki pekerja produksi yang berpotensi terpapar beban fisik setiap hari.

Tujuan: Mengetahui pengaruh beban kerja fisik terhadap kelelahan, mengidentifikasi tingkat beban kerja fisik dan kelelahan, serta memberikan rekomendasi perbaikan.

Metode Penelitian: Penelitian kuantitatif cross-sectional dengan 42 sampel (*Slovin*, error 10%). Data diperoleh melalui observasi, wawancara, dan kuesioner. Beban kerja fisik diukur dengan *Cardiovascular Load* (CVL), kelelahan dengan *Swedish Occupational Fatigue Inventory* (SOFI). Analisis menggunakan regresi linear sederhana, *Fishbone* Diagram, serta rekomendasi berbasis *Hierarchy of Control*.

Hasil: Seluruh responden memiliki beban kerja fisik kategori ringan (%CVL 15,14–18,79%). Kelelahan kerja berada pada kategori sedang dengan skor SOFI rata-rata 3,6. Regresi menunjukkan pengaruh positif signifikan ($p = 0,049$; $R^2 = 0,094$), artinya hanya 9,4% kelelahan dipengaruhi beban kerja fisik, sisanya oleh faktor lain. *Fishbone* mengidentifikasi penyebab dari aspek manusia, mesin, metode, material, dan lingkungan.

Kesimpulan: Beban kerja fisik berpengaruh signifikan terhadap kelelahan meski tingkatnya ringan. Kelelahan sedang dipicu pula oleh faktor lain. Diperlukan perbaikan melalui kontrol teknik, administratif, dan penggunaan APD.

Kata Kunci: Beban Kerja Fisik, Kelelahan Kerja, CVL, SOFI, *Fishbone* Diagram, *Hierarchy of Control*.

**ANALYSIS OF THE EFFECT OF PHYSICAL WORKLOAD ON WORK
FATIGUE AMONG PRODUCTION WORKERS AT PT UNICON**

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ABSTRACT

Background: Excessive physical workload is a major cause of work fatigue, which negatively affects productivity, accident risk, and workers' health. PT Unicon Sejahtera Mandiri, a precast concrete manufacturer, employs production workers who are exposed to significant physical demands on a daily basis.

Objective: To analyze the effect of physical workload on work fatigue, identify the levels of physical workload and fatigue, and provide improvement recommendations.

Methods: This study used a quantitative cross-sectional approach with 42 samples (Slovin formula, 10% error). Data were collected through observation, interviews, and questionnaires. Physical workload was measured using Cardiovascular Load (CVL), while work fatigue was assessed using the Swedish Occupational Fatigue Inventory (SOFI). Data were analyzed using simple linear regression, Fishbone Diagram, and improvement strategies were developed based on the Hierarchy of Control.

Results: All respondents had a light physical workload (%CVL 15.14–18.79%). Work fatigue was in the moderate category with an average SOFI score of 3.6. Regression analysis showed a significant positive effect ($p = 0.049$; $R^2 = 0.094$), meaning only 9.4% of fatigue was explained by physical workload, while the rest was influenced by other factors. Fishbone analysis identified contributing factors related to humans, machines, methods, materials, and the work environment.

Conclusion: Physical workload significantly affects work fatigue, although the level of workload is categorized as light. Moderate fatigue levels are also triggered by other factors. Improvements are recommended through engineering controls, administrative measures, and the use of personal protective equipment (PPE).

Keywords: Physical Workload, Work Fatigue, CVL, SOFI, Fishbone Diagram, Hierarchy of Control.