

# Analisis faktor risiko ergonomi terhadap keluhan gangguan muskuloskeletal pada pekerja UMKM pengrajin alas kaki di Kecamatan Ciomas tahun 2021 = Analysis of ergonomic risk factors to musculoskeletal disorder complaint on footwear MSMES workers in Ciomas District in 2021

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## Abstrak

Kebutuhan produksi alas kaki dengan target harian yang telah ditetapkan mengharuskan pekerja bekerja dengan maksimal agar target dapat tercapai. Namun, aktivitas pekerjaan pada Usaha Mikro Kecil dan Menengah (UMKM) pengrajin alas kaki seperti melakukan pekerjaan dengan posisi duduk, membungkuk, leher menekuk, serta dalam waktu kerja yang lama dan tidak menentu dapat menimbulkan nyeri yang mengarah pada kondisi keluhan gangguan muskuloskeletal. Penelitian ini bertujuan untuk menganalisis faktor risiko individu, faktor risiko pekerjaan, faktor risiko lingkungan kerja, dan faktor risiko peralatan kerja terhadap keluhan gangguan muskuloskeletal pada pekerja UMKM pengrajin alas kaki di Kecamatan Ciomas. Penelitian ini menggunakan desain studi cross sectional. Keluhan gangguan muskuloskeletal dinilai dengan lembar penilaian Nordic Muskuloskeletal Questionnaire (NMQ). Faktor risiko individu dinilai melalui kuesioner karakteristik responden, dan antropometri dilakukan pengukuran menggunakan meteran. Kemudian faktor risiko pekerjaan dinilai menggunakan lembar Quick Exposure Checklist (QEC). Lalu faktor risiko lingkungan kerja dinilai dengan pengukuran suhu menggunakan WBGT (Wet Bulb Globe Temperature) meter dan pengukuran pencahayaan menggunakan lux meter. Sedangkan faktor risiko peralatan kerja dinilai dengan mengukur workstation dan disesuaikan dengan standar antropometri. Hasil penelitian menunjukkan bahwa sebanyak 84,7% responden mengalami keluhan gangguan muskuloskeletal. Hasil penelitian pada faktor risiko individu menunjukkan ada hubungan yang signifikan antara perilaku merokok dengan keluhan gangguan muskuloskeletal pada bahu. Hasil penelitian faktor risiko pekerjaan menunjukkan ada hubungan antara tingkat pajanan risiko punggung terhadap keluhan gangguan muskuloskeletal pada leher. Hasil pengukuran faktor risiko lingkungan kerja menunjukkan bahwa tidak terdapat hubungan signifikan dengan keluhan gangguan muskuloskeletal secara umum. Hasil pengukuran peralatan kerja pada workstation menunjukkan bahwa hanya terdapat beberapa workstation yang sesuai dengan standar antropometri yaitu meja open pada UMKM 4,5, dan 8, mesin jahit, dan meja finishing pada UMKM 8.

.....The need for footwear production with predetermined daily target requires worker to work optimally so the target can be achieved. However, work activity on footwear Micro, Small, and Medium Enterprises (MSMEs) such as sitting work position, bending down, neck bend, long duration of work and uncertain can cause pain that lead to musculoskeletal disorder complaint. This research aim to analyze individual risk factors, occupational risk factors, work environment risk factors, and work equipment risk factors against musculoskeletal disorder complaint on footwear MSMEs workers in Ciomas district. This research using cross sectional study design. Complain of musculoskeletal disorder were assessed using the Nordic Muskuloskeletal Questionnaire (NMQ). Individual risk factors through a questionnaire of respondent's characteristics, and anthropometry were assessed by measuring tape. Occupational risk factors were

assessed using the Quick Exposure Checklist (QEC). Then, work environment risk factors were assessed by measuring temperature using a WBGT (Wet Bulb Globe Temperature) meter and measuring lighting using a lux meter. While work equipment risk factors were assessed by measuring workstation and adjusted to anthropometric standards. The result of the research showed that 84,7% of respondent have a musculoskeletal disorder complaint. The result on individual risk factors showed that there was a significant relationship between smoking behavior and musculoskeletal disorder complaint on shoulder. The result on occupational risk factors showed that there was a significant relationship between back risk exposure level to musculoskeletal disorder complaint on neck. The result on work environment risk factors showed that there was no significant relationship with musculoskeletal disorder complaint in general. The result of measuring work equipment risk factors on workstations show that there are only a few workstations that comply with anthropometric standard, there are open's table on 4th,5th, and 8th's MSME, sewing machines, and finishing table's at 8th MSME.