Effectiveness of ergonomic chair against musculoskeletal disorders in female batik workers of Sragen district / Sumardiyono, Ari Probandari, Diffah Hanim, Selfi Handayani, Indri Hapsari Susilowati

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Abstrak

The majority of female batik workers uses non-ergonomic chairs (dingklik) that pose risks of musculoskeletal disorders.
This study aimed to design an ergonomic chair and evaluate its effectiveness in reducing musculoskeletal disorders
among the workers. This is a quasi-experimental study (using one group pre and post-test design) on 50 female batik
workers selected by quota sampling. Musculoskeletal disorders were measured among the samples before and after the
use of the designed ergonomic chair which they were asked to use for two months. T-test, ANCOVA, Wilcoxon test,
McNemar test and Chi Square test were used for the analysis. The study found statistical significant differences of risk
factor against musculoskeletal disorders among the workers before and after their use of the designed ergonomic chair
(p< 0.05); and of musculoskeletal disorders before and after using the ergonomic chair (p= 0,035). Body Mass Index
(BMI) was identified as a confounding factor, and statistical significant difference of musculoskeletal disorders were
also found among the workers with <25 and >25 BMI even before and after using the ergonomic chair (p=0.033 and
p=0.015 respectively). By ANCOVA statistical test, after controlling BMI, another statistical difference of
musculoskeletal disorders was also identified before and after using the ergonomic chair (p=0.033). It is concluded that
the designed ergonomic chair is effective to reduce the risk of musculoskeletal disorders.

Pengaruh Pemakaian Kursi Ergonomis terhadap Gangguan Muskuloskeletal pada Pekerja Wanita Batik Tulis
di Kabupaten Sragen. Sebagian besar posisi kerja pekerja batik tulis di Sragen tidak ergonomis, sehingga berisiko terjadi
gangguan muskuloskeletal. Penelitian ini bertujuan untuk mendesain kursi ergonomis dan menilai efektifitas desain
kursi terhadap gangguan muskuloskeletal pekerja wanita batik tulis. Jenis penelitian adalah eksperimental quasi dengan

pendekatan one group pre and posttest design. Populasi adalah seluruh pekerja industri Batik Sragen. Teknik sampling
quota random sampling. Sampel sebanyak 50 orang diukur tingkat risiko keparahan gangguan muskuloskeletalnya
sebelum dan sesudah menggunakan kursi ergonomis. Selanjutnya, dilakukan uji Wilcoxon test, McNemar test, dan Chi
Square test. Perbedaan tingkat risiko keparahan muskuloskeletal sebelum dan sesudah menggunakan kursi ergonomis
($p< 0,05$). Terdapat perbedaan keluhan muskuloskeletal sebelum dan sesudah menggunakan kursi ergonomis ($p=0,035$).
Indeks massa tubuh teridentifikasi sebagai confounding factor karena terdapat hubungan yang signifikan terhadap
gangguan muskuloskeletal, baik sebelum maupun sesudah menggunakan kursi ergonomis (masing-masing $p=0,033$ dan
$p=0,015$). Melalui uji Ancova, confounding factor dikendalikan, diperoleh hasil uji yang tetap signifikan ($p=0,033$).
Kursi kerja ergonomis menurunkan risiko keparahan gangguan muskuloskeletal.