

**HUBUNGAN USIA DAN INDEKS MASSA TUBUH DENGAN  
DERAJAT *HEAT STRAIN* PEKERJA BAGIAN DYEING PADA  
PABRIK BENANG PT. G  
TAHUN 2018**

**Zakky Bramantyo Ardhi**

**Abstrak**

*Heat strain* adalah respon fisiologis tubuh terhadap panas di lingkungan kerja. *Heat strain* dapat diperparah dengan buruknya faktor individu pekerja, seperti usia yang sudah tua dan berat badan yang berlebih. Penelitian ini bertujuan untuk mengetahui hubungan antara usia dan indeks massa tubuh pekerja dengan derajat *heat strain* pekerja bagian dyeing PT. Gunze Indonesia tahun 2018. Desain penelitian *cross sectional* dengan dengan teknik *total sampling*. Data dikumpulkan dengan pengukuran tinggi dan berat badan, denyut nadi arteri radialis, dan suhu tubuh. Sampel berjumlah 52 orang pekerja pada bagian *dyeing*. Hasil penelitian menunjukkan dari 52 sampel, sebanyak 45 sampel mengalami *heat strain* ringan, 2 sampel mengalami *heat strain* sedang, dan 5 sisanya tidak mengalami *heat strain*. Data dianalisis dengan uji *Fisher*. Hasil didapatkan tidak terdapat hubungan antara usia ( $p = 0,093$ ) dengan derajat *heat strain* dan terdapat hubungan antara indeks massa tubuh ( $p = 0,011$ ) dengan derajat *heat strain* (OR = 16,889). Hal ini menunjukkan bahwa berat badan berlebih mengganggu proses termoregulasi tubuh, menyebabkan tubuh lebih rentan terhadap panas lingkungan kerja, sehingga lebih mudah mengalami *heat strain*.

**Kata Kunci** : Derajat *Heat Strain*, Indeks Massa Tubuh, Pekerja, Usia

**ASSOCIATION BETWEEN AGE AND BODY MASS INDEX  
WITH DEGREE OF HEAT STRAIN IN DYEING SECTION  
WORKERS AT YARN FACTORY PT. G  
IN 2018**

**Zakky Bramantyo Ardhi**

**Abstract**

Heat strain is body physiological response to heat from work environment. Heat strain can be exacerbated by poor individual worker factors, such as being old and overweight. This study aims to determine the association between age and body mass index with degree of heat strain in dyeing section workers at yarn factory PT. Gunze Indonesia in 2018. Cross sectional study design used in this study with total sampling. Data were collected by measuring height and weight, radial artery pulse, and body temperature. The population in this study were all worker in dyeing section PT. Gunze. A sample of 52 workers in the dyeing section. The results showed that from 52 samples, 47 samples had heat strain, and the remaining 5 did not experience heat strain. Data were analyzed by *Fisher's* test. The results showed that there was no correlation between age ( $p = 0,093$ ) with the degree of heat strain and there was a relationship between body mass index ( $p = 0,011$ ) with the degree of heat strain (OR = 16,889). This shows that being overweight interferes with the body's thermoregulation process, causing the body to be more susceptible to heat from the work environment, making it easier to experience heat strains.

**Keywords :** Age, Body Mass Index, Degree of heat strain, Workers