ABSTRACT

The heat is produced by the body's metabolism, the workloads, the fulfillment of the body's fluids and the work environment. It causes the excessive elimination by body's sweat so it makes dehydration. This study aimed to analyze the relationship of physical workloads, work environment and the amount of fluid consumption with the quality of hydration in the Extract Meat Powder (EMP) PT Ajinomoto Indonesia Mojokerto Factory.

This was an observational research with Cross Sectional study design. The sample was 32 participants selected by Simple Random Sampling. The data collected the characteristics of the subjects, the physical workload, the working environment, the amount of consumption of liquids and the hydration status. The physical workload was measured by a stopwatch. Temperature and humidity were measured by Thermohygrometer. The amount of consumption of liquid obtained by food recall 2x24 hours. Hydration status is examined by the urine spesific gravity. The data was analyzed by spearman correlation test and person correlation test.

The results of research the average age of workers 30 years old with working period mostly 1-5 years. The most of the workers have physical workload light with a pulse work 89,29 pulse/ minutes. The temperature was >TLV (63,6%) and humidity was TLV (54,5%). The average amount of liquid consumption was 2724.69 ml. Most of the workers was moderate dehydration. The investigation also revealed that there were a relationship between age (p=0.019), working period (p=0.038) and the amount of fluid consumption (p=0.024) with the status of hydration.

In conclusion, there are still many worker who are dehydrated. This study suggested that the workers to consume 150-200cc water every 15-20 minutes during the work to prevent the onset of dehydration.

Keywords: worker characteristics, physical workload, the working environment, the amount of consumption of fluids, hydration status.

ABSTRAK

Tekanan panas berasal dari panas metabolisme tubuh, beban kerja berlebih, pemenuhan cairan dan lingkungan kerja. Tekanan panas yang dialami pekerja merupakan akibat pengeluaran keringat berlebih sehingga tubuh mengambil cadangan cairan di dalam tubuh yang dapat menimbulkan dehidrasi. Tujuan penelitian adalah menganalisis hubungan beban kerja fisik, lingkungan kerja dan jumlah konsumsi cairan dengan status hidrasi di divisi *Ekstract Meat Powder* (EMP) PT. Ajinomoto Indonesia Mojokerto Factory.

Penelitian ini termasuk penelitian Observasional dengan desain *Cross Sectional*. Besar sampel adalah 32 responden dengan menggunakan *Simpel Random Sampling*. Data yang dikumpulkan meliputi karakteristik subjek, beban kerja fisik, lingkungan kerja, jumlah konsumsi cairan dan status hidrasi. Beban kerja fisik diukur menggunakan *stopwatch*. Suhu dan kelembaban diukur menggunakan *Thermohygrometer*. Jumlah konsumsi cairan diperoleh dari *food recall 2x24 jam*. Status hidrasi diperoleh dari pemeriksaan berat jenis urin. Analisis data menggunakan uji korelasi *spearman* dan uji korelasi *pearson*.

Hasil penelitian menunjukkan bahwa rerata usia pekerja 30 tahun dengan masa kerja rata-rata 1-5 tahun. Sebagian besar memiliki beban kerja fisik ringan dengan denyut nadi kerja 89,29 denyut/menit. Suhu rata-rata >NAB (63,6%) dan kelembaban NAB (54,5%). Rata-rata jumlah konsumsi cairan 2724,69 ml. Sebagian besar pekerja mengalami dehidrasi sedang. Hasil uji statistik menunjukkan ada hubungan antara usia (p= 0,019), masa kerja (p= 0,038) dan jumlah konsumsi cairan(p= 0,024) dengan status hidrasi.

Kesimpulan penelitian adalah masih banyak pekerja yang mengalami dehidrasi sedang. Pekerja disarankan mengkonsumsi air minum 150-200cc setiap 15-20 menit selama bekerja untuk mencegah terjadinya dehidrasi.

Kata kunci: karakteristik pekerja, beban kerja fisik, lingkungan kerja, jumlah konsumsi cairan, status hidrasi