

HEAT EXPOSURE AND ITS HEALTH EFFECTS
AMONG CONSTRUCTION SITE WORKERS

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ABSTRAK

Tekanan haba adalah beban bersih kepada pekerja yang terdedah daripada sumbangan faktor persekitaran, faktor pekerjaan dan peribadi. Ia boleh menyebabkan gejala-gejala tekanan panas seperti sakit kepala dan kekejangan otot. Kajian rentas ini dijalankan di tapak pembinaan untuk menentukan pemantauan alam sekitar dan penilaian tekanan haba peribadi. Selain itu, untuk mengenal pasti faktor-faktor yang mempengaruhi tekanan haba peribadi. Instrumen yang digunakan dalam pengumpulan data adalah QUEST Temp⁰³⁴ Thermal Monitor untuk mengukur indeks Suhu Mentol Globe (WBGT) manakala OMRON Digital HEM7200 Monitor Tekanan Darah dan Termometer Digital Infram digunakan dalam kajian ini untuk menilai pemantauan peribadi. Sementara itu, soal selidik digunakan untuk mendapatkan maklumat yang berkaitan dengan gejala tekanan haba. Terdapat seramai 40 responden yang terlibat dalam kajian ini. Kajian ini memberi tumpuan kepada tapak pembinaan di Kuantan, Pahang. Terdapat perbezaan yang signifikan antara suhu ambien dan indeks haba. Ia juga menunjukkan bahawa WBGT jauh lebih tinggi daripada indeks haba. Selain itu, tiada hubungan signifikan antara pendedahan haba alam sekitar (WBGT) dan kesan fisiologi (tekanan darah dan kadar denyutan jantung). Selain itu, faktor status penghidratan dan Indeks Massa Tubuh (BMI) secara signifikan mempengaruhi tahap tekanan haba di kalangan semua faktor kerana nilai yang signifikan adalah menunjukkan ($p < .05$). Penyebaran gejala tekanan haba menunjukkan bahawa ada beberapa gejala yang paling kerap yang sering dialami oleh pekerja di tapak pembinaan seperti sakit kepala, kelemahan, keletihan, pening, suhu badan tinggi dan kekejangan otot. Kesimpulannya, suhu alam sekitar yang tinggi telah meningkatkan pendedahan stres risiko dan meningkatkan kecenderungan untuk mendapatkan penyakit haba dengan menunjukkan gejala-gejala tekanan haba.

ABSTRACT

Heat stress is the net load to a worker which could be exposed from the contribution of environmental factors, occupational and personal factor. It can induce the heat stress symptoms such as headache and muscle cramps. This cross-sectional was conducted in the construction site to determine environmental monitoring and personal heat stress assessment. Besides, to identify factors that influence personal heat stress. The instruments used in data collection were QUEST Temp⁰³⁴ Thermal Environment Monitor to measure Wet Bulb Globe Temperature (WBGT) index whereas OMRON Digital HEM7200 Blood Pressure Monitor and Infrared Digital Thermometer were used in this study to assess personal monitoring. Meanwhile, questionnaire was used to retrieve information related to heat stress symptoms. There were a total of 40 respondents participated in this study. This study focus on construction site in Kuantan, Pahang. There was a significant differences between ambient temperature and heat index. It also showed that WBGT was significantly higher than heat index. Apart from that, there was no significant correlation between environmental heat exposure (WBGT) and physiological effect (blood pressure and heart rate). Besides that, factor of hydration status and Body Mass Index (BMI) was significantly influence heat stress level among all the factors as the significant value was ($p < .05$). The prevalence of heat stress symptoms showed that there was several most common symptoms that frequently suffered by workers at construction site such as headache, weakness, fatigue, dizziness, high body temperature and muscle cramps. In conclusion, high environmental temperature had escalated the risk stress exposure and increase the tendency of getting heat-related illness with introduce the heat stress symptoms.