

UNIVERSITI TEKNOLOGI MARA

**OCCUPATIONAL HEATS STRESS
STUDY AT WESTPORTS MALAYSIA
SDN BHD**

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In the name of Allah, The Most Gracious, The Most Merciful.

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ABSTRACT

Heat stress is a symptom that can cause bodily failure and is associated with work-related illness. Many studies have been carried out both in the country and outside the country. This study is conducted in a cross-sectional way to identify the risks and levels that enable the occurrence of Heat Stress (HS) symptoms. In addition, this study also conducts experimental studies by demonstrating the parameters adopting HS-related parameters. Climate condition in Malaysia has undergone a major change from year to year and in parallel with this, there has been an increase in heat stress cases in Malaysia. Consequently, the level of awareness of HS is very important and needs to be taken seriously. A total of 80 samples were used to determine the HS risk, they were supplied with the questionnaire (Heat Strain Score Index) to determine the Heat Score Index and two selected areas (Indoor & Outdoor) in conducting measurement parameters related to exposure to Heat Stroke using the Wet Bulb Globe Thermometer WBGT).

As a result of this study, it was found that the two areas carried out by measurement were risky areas for the occurrence of HS. In the indoor working area, the minimum reading of the Dry Bulb is 28.73 ° C while the minimum reading at the outdoor working area is 30.10 ° C while the maximum reading of the dry bulb is the readings is 29.59 ° C and 31.76 ° C for both areas. The result of HSSI states that worker that work Indoor only about 27.50% in the safe level or green zone meanwhile the other 72.50% in the alarm level or yellow zone based on the HSSI total final score. In the working area and outdoor, the data obtained showed that more than half of the total respondent is in the danger level or red zone. The data show 57.50% are exposed to the heat strain meanwhile 42.50% of the respondent is in the alarm zone or yellow zone. From the study data, the has been obtained, it can be concluded that the heat stress and heat stress-related illness could be occurring.

CHAPTER 1

INTRODUCTION

1.1 Background of the study

There are two types of heat exposure, which are indoor and outdoor heat exposure. Outdoor heat exposure usually happens when workers are doing work activities under high temperature and high humidity. Sun light is the main source of heat exposure for the outdoor job (Rasdi et al, 2017). Prolonged work under extreme conditions causes heat strain. Sustained heat strain due to exposure to hot conditions, doing heavy physical work and the use of the personal protective clothes form insulation against water vapor and heat, resulting in heat exhaustion (Dehghan et al, 2012).

Malaysia's temperature peaks around 31 °C and 33 °C however, in 2016, the temperature was increased to 39 °C due to El Niño phenomenon (Malaysia Meteorological Department, 2016). Due to the phenomenon, in 2016 there were a number of cases of heat stress, according to the press release by The Minister of Health, Ministry of Health Malaysia, until the 18th March 2016 there are seven cases of heat related illness whereby six were heat exhaustion, one was heat stroke, and one death (Subramaniam, 2016). Ports are situated near sea line and their structures are usually without any roof or shade from vegetation, therefore it is assumed that the workers there are prone to be exposed to heat from direct sunlight as well as heat from work