

UNIVERSITI TEKNOLOGI MARA

**AIR QUALITY ASSESSMENT AND
THE HEALTH IMPACT TOWARDS
STALL WORKERS AT NIGHT
MARKETS IN SELANGOR**

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

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ABSTRACT

In plain sight, it can be seen that the surrounding air at night markets are polluted with smokes from cooking activities which can create health risk to the night market workers. However, the actual level of air quality at night markets in Selangor is unknown, whether it exceed a standard limit or if it is at a safe level for the workers to inhale, and if it cause respiratory health symptoms. This research uses a Handheld DustTrak DRX Aerosol Monitor 8534 and 3M QuesTempo 36 Area Heat Stress Monitors (WBGT) to measure air quality parameters of $PM_{2.5}$, $WBGT_o$ and relative humidity accompanied by questionnaire form to assess the presence of respiratory health symptoms. The air quality monitors was put at a chosen monitoring site close to the stalls to take a grab sample of the air quality. Meanwhile, the questionnaire is filled by selected 60 night market workers. The result obtained is an exceeded level of $PM_{2.5}$ (mg/m^3) at a mean of 0.059 ± 0.195 and high level of relative humidity at a mean 75.917 ± 7.082 , while the level of $WBGT_o$ ($^{\circ}C$) does not exceed the standard limit at a mean of 27.477 ± 1.045 . Besides, cough symptoms shows a prevalence of 10% among workers that has worked for a decade or less while an exceeded $WBGT_o$ has a significant prevalence to presence of cough with phlegm at 4.071. it is suggested for future study to measure other parameters, include lung function test and expand the scale of research.

Keywords: *Night market, air quality, respiratory health symptoms.*

CHAPTER 1

INTRODUCTION

1.1 Background of study

Night markets are one of the go-to places for Malaysians to buy food and other goods at a cheap price. It is packed with stalls that sell different products such as fruits, snacks, toys, clothes and ornaments, creating a crowd of local communities and tourists. Zhao & Lin (2010) supported the statement by mentioning that night markets are crowded outdoor cooking settings where residents and visitors spend a considerable amount of time. This encourages vendors to take an interest in joining selling their goods at such places due to the crowd of potential customers increasing the likelihood of customers coming and buying their products.

A study by Chang & Hsieh (2006) indicates that the major reasons for people to visit night markets are due to a variety of food choices (72%), to kill time (45%) and inexpensive pricing (36%). They further explained that the frequency of eating out at night markets is around once a month, with 77% of visitors craving local food. Kuo et al. (2012) agree that night markets provide unique life experiences at night for visitors to spend leisure time as well as observe local culture and its characteristics. The stalls are primarily open at night, which is also the period where most visitors will come compared to during the daytime because it is more convenient and comfortable for an entire family to spend time together (Ying & Lee, 2007).