

UNIVERSITI TEKNOLOGI MARA

**INDOOR AIR QUALITY AND RESPIRATORY
SYMPTOMS DEVELOPED AMONGST STUDENTS AT
SELECTED SCHOOLS IN KUALA SELANGOR
DISTRICT, SELANGOR**

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Declaration by Student

Project entitled Indoor Air Quality and Respiratory Symptoms Developed Amongst Student at Selected Schools In Kuala Selangor District, Selangor is a presentation of my original research work. Wherever contributions of others are involved, every effort is made to indicate this clearly, with due reference to the literature, and acknowledgement of collaborative research and discussions. The project was done under the guidance of Tn Haji Hashim Bin Ahmad as Project Supervisor. It has been submitted to the Faculty of Health Sciences in partial fulfillment of the requirement for the Degree of Bachelor in Environmental Health and Safety (Hons).

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Abstract

Indoor Air Quality and Respiratory Symptoms Developed Amongst Students At Selected Schools In Kuala Selangor District, Selangor

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A comparative cross sectional study on selected pollutant concentration level of PM₁₀ and CO₂, and physical air quality parameters such as ambient temperature and relative humidity between 2 different schools that have different physical activities surround the area in Kuala Selangor District, Selangor. The level of CO₂ concentration and physical air quality parameters (ambient temperature and relative humidity) have been measured using BWGasMicro5Detector for outdoor and Q-Trak for indoor environments. For PM₁₀, Dust Trak II have been used both for indoor and outdoor environments. Walkthrough assessments have been held before conducting the study in order to determine suitable sampling points and details of selected schools. The different concentration and correlation of air pollutants, respiratory symptoms developed were analyzed using SPSS for statistical analysis. The acceptable limit of physical and chemical air parameters was based on Malaysian Code of Practice on Indoor Air Quality by Department of Occupational Safety and Health (DOSH). Result showed that, the mean concentrations of temperature in both schools were exceeding the standard limits, whereas for relative humidity, the mean concentration for both schools complying with the standard. For indoor air pollutants concentration measurements, only PM₁₀ level in SK Ijok is exceeding the standard limit given. There is significant different of PM₁₀ between SK Ijok and SK Puncak Alam 3. In addition, SK Ijok has fair correlation of CO₂ and PM₁₀ concentration between indoor and outdoor environments. There is a significant different in respiratory symptoms developed amongst students between two schools. As conclusion, there are a few parameters exceeding the standard limits in the schools. Students at SK Ijok is most susceptible to develop respiratory symptoms since the schools is located too near with the road and have small medium industry nearby.

Keywords: Air Pollutant, Concentration, Indoor Air Quality, PM₁₀, CO₂