

**INDOOR AIR QUALITY AND ITS RELATIONSHIP TO SICK BUILDING
SYNDROME AMONG OFFICE WORKERS AT TOWER 1, PETRONAS TWIN
TOWERS, KLCC**

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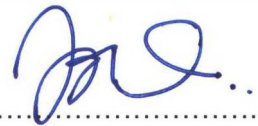
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DECLARATION

Project entitled "*Indoor Air Quality and Its Relationship to Sick Building Syndrome among Office Workers at Tower 1, PETRONAS, KLCC*" 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 Cik Siti Rohana Mohd. Yatim as Project Supervisor and Tn. Hj. Pozi Mohd. Tahir as Co-supervisor. It has been submitted to the Faculty of Health Sciences in partial fulfilment of the requirement for the Degree of Bachelor in Environmental Health and Safety (Hons.) The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.



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ABSTRACT

Indoor Air Quality and Its Relationship to Sick Building Syndrome among Office Workers at Tower 1, PETRONAS KLCC

Jaharudin Juhan

A cross-sectional study was conducted in office building at Tower 1, PETRONAS KLCC from November 2010 until December 2010. The main objective of this study was to investigate the association between sick building syndrome (SBS) and indoor air pollutant (IAP) in three different location of office building. A total of 100 office workers from purposive floor were selective as respondents and 54 air sampling location include in this study. All the IAP measured below the maximum limit and complies with Industrial Code of Practice on Indoor Air Quality 2010, DOSH. ANOVA test found there are significant different of Carbon Monoxide ($p < 0.001$) in each location, while Kruskal Wallis found Air Movement ($P < 0.001$) is significant different in each location. Sick Building Syndrome (SBS) shows the increasing with the floor heights. 6 SBS prevalence found significant among three different location as 'dry, itching, or irritated eyes' ($p = 0.001$), 'sore or dry throat' ($p = 0.004$), 'stuffy or runny nose or sinus congestion' ($p = 0.002$), 'difficult remembering' ($p = 0.004$), 'dizziness or light headed' ($p = 0.005$), and 'dry or itchy skin' ($p = 0.002$). CO, temperature, and air movement statistical found correlate to SBS. The Pearson Correlation test showed that there was significant correlation between Temp. and 'dry, itching, or irritated eyes' ($r = 0.370$, $P = 0.006$), 'headaches' ($r = 0.375$, $P = 0.005$), 'sore or dry throat' ($r = 0.327$, $P = 0.016$), 'unusual tiredness, fatigue' ($r = 0.326$, $P = 0.016$), and difficult remembering ($r = 0.389$, $P = 0.004$), while Air movement found significant with 'dry, itching, or irritated eyes' ($r = 0.271$, $P = 0.047$). Spearman Correlation was test on CO parameter with SBS, and the result is significant between CO and 'dry or itchy skin' ($r = 0.306$, $P = 0.025$). As a conclusion, this study found there are significant different of indoor air pollutant in each location, SBS prevalence show the increasing with the floor heights, and statistical analysis found there is correlation between CO, temperature and air movement with SBS symptom.

Keywords: Indoor Air Quality, Sick Building Syndrome, Indoor Air Pollutants