

Retrofitting and purposed-built buildings: indoor air quality and sick building syndrome among private higher learning institution students in Kuala Lumpur and Selangor

ABSTRACT

This study was done to determine the relationship between indoor air quality and Sick Building Syndrome (SBS) among students in Retrofitting Building (Building A) located in Kuala Lumpur and Purposed-built Building (Building B) located in Selangor. A cross sectional study was conducted among student from selected buildings with the total number of 130 respondents. Modified questionnaire based on Indoor Air Quality and Work Symptoms Survey, NIOSH, Indoor Environmental Quality Survey, 1991 was used to record the number of students experienced SBS. Measurement of indoor air quality was performed using instruments recommended by the IAQ Code of Practice, Department of Occupational Safety and Health, Malaysia. There was a significantly higher number of occupants experienced SBS in Building A (60 of 65 respondents) compared to Building B (50 of 65 respondents) ($X^2 = 4.127$, $p = 0.042$). It was also found that there is a significant difference between the numbers of respondents having SBS between Building A and Building B ($p < 0.045$). Building A had higher CO₂, bacteria, fungi, and UFP significantly as compared to Building B. However, only CO was significantly higher in Building B compared to Building A. It is suggested that regular maintenance of both buildings is compulsory as ventilation played an important role in maintaining good indoor air quality in a building.

Keyword: Indoor air quality; Sick building syndrome; Retrofitting built building; Proposed built building