

Abstract

Introduction:

Nurses in intensive care units are more exposed to sick building syndrome due to their constant presence in ICUs. Sick building syndrome causes financial and human costs and reduces nurses' productivity. Therefore, this study was performed to determine the frequency of sick building syndrome and related environmental factors among nurses working in ICUs of Ardabil hospitals.

Methodology:

This research is a cross-sectional descriptive-analytical study. 173 intensive care unit nurses participated in this study. The MM040EA questionnaire was used to assess sick building syndrome. Physical instruments including luxmeter, sound measuring device, thermal anemometer and WBGT meter were used to measure the environmental factors. SPSS software version 20 was used to analyze the data. Mean level was considered 0.05.

Findings:

The average age of nurses participating in the study was 33.43 ± 5.79 , the average job experience was 5.34-72.9 and the average income was about 5 million Tomans. 97.7% of the participants were women. 68.2% were married and 93.6% had a bachelor's degree in nursing. 13.9% of the participants had a history of asthma, 35.8% had a history of seasonal allergies, 35.3% had a history of eczema, 38.2% had a history of seasonal allergies, asthma and eczema in the family and 23.7% had a history of migraine. The prevalence of the syndrome in ICUs of Ardabil educational and medical hospitals is 59%. The most common symptoms of ICU nurses are fatigue (76.9%) and headache (60.1%). The results of chi-square test showed that the participants' age (Sig = 0.003), weekly working hours (Sig = 0.0001), job experience (Sig = 0.001), ICU working experience (Sig = 0.002), nurses' working conditions (Sig = 0.000), History of asthma (Sig = 0.001), seasonal allergies, asthma and eczema (Sig = 0.001), high room temperature (Sig = 0.04), unfavorable and suffocating air (Sig = 0.004), unpleasant odor (Sig = 0.02), Noise (Sig = 0.03) are significantly associated with sick building syndrome. But there is no meaningful relationship between other demographic characteristics (gender, position, marital status, the workplace hospital, education, monthly income, level of organizational support and smoking), medical history (migraine, eczema), environmental factors (such as room air circulation, variable room temperature, low room temperature, dry air, static electricity shock, second-hand smoke, low or high light, and dust) and sick building syndrome. The results of correlation test also showed between night light ($r = -0.64$, $r = 0.021$ sig), daylight ($r = -0.53$, 0.000 sig =), and air conditioning ($r = -0.79$, sig = 0.005) and the sick building syndrome there is a meaningful and inverse relationship. But sounds comfort ($r = 0.77$, sig = 0.01) has a meaningful and direct relationship with sick building syndrome. Also, there is no

meaningful relationship between daytime temperature comfort (0.6sig =) and night (0.25 sig =) and sick building syndrome.

Discussion and Conclusion:

Sick building syndrome is a common health problem among nurses in the intensive care units of Ardabil hospitals. regarding the high frequency of this syndrome among ICU nurses and its relation with environmental factors such as unpleasant air conditioning, high room temperature, the intensity of day and night lighting, more attention for improving environmental factors such as air conditioning system efficiency, and temperature and light regulation can increase the efficiency of nurses in their workplace and decrease the frequency of sick building syndrome.

Keywords: Sick building Syndrome, Environmental factors, Intensive care unit nurses, Occupational disease.