

Editorial Article

The Sick Building Syndrome (SBS)

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The term "sick building syndrome", was first coined in the 1970s and is used to describe a situation in which the occupants of a building experience acute health or a broad range of labels that covers a variety of symptoms which are triggered when people spend time in a particular building. It is described as a group of symptoms attributed to the physical environment of specific buildings and it is an increased health problem for the workers of modern office buildings¹⁻⁵.

The cause of the symptoms is not known. Problems arise as specific symptoms such as skin rashes, headache, nausea, dizziness, itchy eyes, throat irritation, dry or itching skin, rashes, dry cough, hoarseness of voice, increased incidence of asthma attacks and nasal allergy symptoms. Sometimes, more vague symptoms are presented such as fatigue, pains and aches, difficulty in concentration, sensitivity to odours and personality changes⁴⁻⁷. The symptoms usually resolve soon after leaving the building but may remain skin symptoms and dryness of the skin which it takes a few days to be cured⁵⁻⁸.

In most cases sick building syndrome seems to only occur in certain types of buildings such as in these with automated heating, air-conditioning and systems ventilation, although it may also occur in other communal buildings such as Hospitals, Schools, Educational Institutes, and apartment buildings¹⁻⁴.

While specific causes of SBS remain unknown, most experts believe that the

symptoms of SBS are likely the result of a combination of factors.

These factors may include:

- Chemical pollutants such as combustion pollutants, the main pollutants from this source are Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO₂) and Carbon Monoxide (CO)¹⁻⁶
- Chemical pollutants from indoor sources such as Volatile Organic Compounds (VOCs), formaldehyde (HCHO) from dust, carpeting, adhesives, upholstery, cleaning agents, environmental tobacco smoke, particle board, paints, varnishes, marker pens, electronic equipment etc^{1,2,4,5,8-11}
- Heavy metals such as lead and mercury^{1,2,5,8,10}
- Ozone produced by printers and photocopiers^{1,2,5,8,10}
- Biological Pollutants such as Viruses, Bacteria, Dust Mites, Pollen, Toxic Black Mold, Insect Body Parts and bird droppings etc^{1,5-8, 10}
- Electromagnetic radiation like televisions, computers and microwaves^{1,5,8, 10}
- Inadequate ventilation such as defective heating systems, malfunctioning ventilation and air-conditioning systems^{4,5,7,10}
- Psychological factors such as excessive work stress, poor staff morale, poor interpersonal relationships, poor communication, dissatisfaction and other psychosocial factors^{8,12}

- Other Factors such as poor and inappropriate lighting, fluorescent lighting, absence of sunlight, humidity, temperature, noise, bad office design, poor ergonomics ^{1-6,8,11}

After a thorough environmental health inspection, prevention and control may help to reduce the frequency and severity of symptoms.

Measures taken may include a general cleanliness of the building, opening windows for fresh air, interiors lighting and colour must mix well with the surroundings. An overall checking and cleaning of the heating, ventilation, air-conditioning system, air filters, humidifiers, cooling towers and air-conditioning system maintenance schedules, should be done ^{7,10,11}. It is very useful to implement structural repairs to prevent leaks and humidity, removal or modification of the pollutant source, a review of chemicals used in the building (nontoxic building material should be used in walls, floors and ceilings) ¹⁻⁵.

Additionally, protective measures must be taken against noise pollution, banning of smoking in the workplace, a review of cleaning practices (that cleaning materials are being properly used and stored), and a thermal insulation. Furthermore, Education and Legislation is the key practice for removing all these pollutants and health catastrophes agents ^{5-8, 10}.

However, it must be considered that the Sick Building Syndrome is not only a health hazard for employees but it is an additional cost for businesses through low productivity and high sickness absence. For this reason the Sick Building Syndrome must be cured.

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