

СИНДРОМ «БОЛЬНОГО ЗДАНИЯ» КАК ПРИЧИНЯЮЩЕЕ БЕСПОКОЙСТВО ЯВЛЕНИЕ

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SICK BUILDING SYNDROME AS A TROUBLESOME PHENOMENON

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Аннотация. В данной работе рассматривается проблема «Синдрома больного здания» в образовательной среде Томского политехнического университета, старейшего университета в Западной Сибири. Главное здание университета было построено в 1896–1902 годах, другие корпуса на 20 лет позже. Вполне естественно, что помещения почти всех офисов и аудиторий университета обновлялись, отделывались современными синтетическими материалами, которые и могут вызвать «Синдром больного здания». На первом этапе исследования авторы выявили уровень осведомленности о феномене «Синдроме больных зданий» среди таких групп, как офисные сотрудники университета, преподаватели и студенты. На втором этапе авторы провели исследование уровня самочувствия и признаков «Синдрома больного здания», в зависимости от аудиторий, где проходят лекции, для того, чтобы определить факторы, влияющие на здоровье студентов (характеристики и состав материалов, использованных в дизайнерском оформлении интерьера и мебели) и подвели итоги.

Abstract. This paper considers the problem of Sick Building Syndrome in the educational environment of Tomsk polytechnic university, the oldest university in Western Siberia. The main university building was constructed in 1896–1902, others in 20 years and later. It is natural that almost all offices and classrooms of the university were renovated; the classrooms were decorated with modern synthetic materials that can cause Sick Building Syndrome. In the first step of our study we investigated the level of Sick Building Syndrome awareness among such groups as the university office workers, teachers and students. In the second step we conducted a study on the students' well-being level and signs of Sick Building Syndrome, depending on the classrooms where lectures take place, in order to determine the factors affecting the students' health (characteristics and composition of the modern interior design materials and furniture) and draw a conclusion.

Introduction. Nowadays, the issues of environmental hazards caused by environmental pollution, uncontrolled use of chemicals in agriculture, and various dyes used in food products and promote the consumption of “green prod-

ucts” are often discussed. We remonstrate against the polluting industries and fight for clean air, natural water and soil. However, we rarely think about the safety of buildings, our study and workplaces.

We do not attach any importance to the fact that most of our life is held in the premises, but not near the production of harmful or highways. Having entered the room and shutting the windows, we instinctively feel our security from the polluted streets believing that outside the home are emissions from factories and vehicles, and other harmful environmental factors. At the present time, environmental security of residential and non-residential buildings is an important factor of our health.

For over 20 years in the world there is such a thing as Sick Building Syndrome. Sick building syndrome is the title given to the phenomenon when people who regularly stay in a building (like office workers, students) experience various troublesome symptoms, mainly when they spend much time there.

The symptoms tend to be flu- or allergy-like, and may include headaches, burning or itching eyes, stuffy nose, sneezing, coughing, sore throat, tight chest, dry or itchy skin, dizziness, difficulty concentrating, nausea and fatigue.

Sick Building Syndrome is disputatious because it’s difficult to definitively link the wide range of symptoms people experience to a recognized illness, or to identify a specific cause [1].

The aim of this paper is to investigate and analyze the problem of Sick Building Syndrome in the educational environment of Tomsk polytechnic university.

Being the oldest engineering university in Siberia, nowadays, Tomsk polytechnic university is a highly developed infrastructure of academic buildings and laboratories with a total area of 282,601 sq.m. The university consists of 6 scientific and educational institutes, 5 educational institutes, 3 faculties, more than 100 departments, 17 scientific and educational centers and 68 research laboratories. The university provides training to 22,000 students [2].

There are 21 buildings in TPU. The main university building was constructed in 1896-1902, others in 20 years and later. Undoubtedly, the majority of offices and classrooms were renovated: interiors were changed according to the spirit of the contemporary time and technological advances. Nevertheless, the use of synthetic materials, the rooms’ layout, space and light can’t be always changed in accordance with hygienic demands and might cause SBS.

Methods. During our research we used the following methods: analysis of Sick Building Syndrome awareness, observation of lecturers and students, survey and its analysis.

In our research we conducted a survey on the students’ and lecturers’ well-being level, depending on the classrooms, where lectures take place, in or-

der to determine the factors affecting the health of students and lecturers, as we did before [3].

In the investigation we have got the same results which truly reflect the presence and consequences of Sick Building Syndrome. Nineteen lecturers and 110 students of Tomsk polytechnic university took part in our survey and answered the following questions:

1. Have you ever heard about Sick Building Syndrome?

- a) yes (12 %);
- b) no (88 %).

2. What kind of problems have you encountered during your working / studying time at the university buildings?

- a) headache (36 %);
- b) dizziness (8 %);
- c) skin rashes (12 %);
- d) respiratory infections (24 %);
- e) none (20 %).

3. Being at the university building which of the health problems have you had?

- a) eye fatigue (37 %);
- b) fatigability (32 %);
- c) low spirits (10 %);
- d) disturbance (16 %);
- e) none (5 %).

4. What do you dislike most about the environment?

- a) shortage of natural light (25 %);
- b) room layout (42 %);
- c) furniture (22 %);
- d) equipment (11 %).

5. What do you like in the present environment?

- a) the sense of history (55 %);
- b) monumentality (11 %);
- c) the space (22 %);
- d) repair (12 %).

6. What do you lack most inside the building?

- a) indoor humidity (10 %);

- b) air (10 %);
- c) light (21 %);
- d) proper temperature (59 %).

7. Which rooms do you prefer?

- a) lecture rooms (for 100 people) (26 %);
- b) lecture rooms (for 30 people) (32 %);
- c) laboratory rooms (for 20 people) (21 %);
- d) practice rooms (15 people) (21 %);.

8. How would you improve the present environment?

- a) improve ventilation (64 %);
- b) change the layout (21 %);
- c) change the furniture (10 %);
- d) change the whitewash (5 %).

Results and Conclusions. Thus there is no doubt that Sick Building Syndrome is a troublesome phenomenon. In the process of our study, we found out that the majority of both staff and students, unfortunately, are not aware of the existence of this phenomenon.

The results show that the main issues that a Sick Building Syndrome can cause are the following: eye fatigue, headache, fatigability; the majority of respondents dislike room layout and lack proper temperature inside buildings; at the same time people like the sense of history that these buildings involve; respondents reported that they feel comfortable in average room and pointed to the need of proper ventilation.

All these data should be taken into consideration by the management of the university to provide better working and studying conditions for its employees and students.

Reference

1. Rose-Innes Olivia Sick building syndrome / EnviroHealth, Health24 // Available at: <http://www.health24.com/Lifestyle/Healthy-workplace/Sick-building-syndrome-20120721>
2. Tomsk Polytechnic University: 20 years later / the official website // Available at: <http://tpu.ru/en/about/figures/20years/>
3. Nadezda A. Kobzeva and Marina V. Kuimova To the problem of Sick Building Syndrome in the University Environment // Conference of the International Journal of Arts & Sciences, CD-ROM. ISSN: 1943-6114: 5(1):41–44 (2012) Copyright _c 2012 by UniversityPublications.net.