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МЕДИЦИНСКИЕ АСПЕКТЫ ЖИЗНИ В БОЛЬШОМ ГОРОДЕ

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Резюме. Данная работа описывает влияние различных аспектов жизни в большом городе на здоровье его жителей. Работа включает в себя результаты опроса, проведенного среди студентов Белорусского государственного медицинского университета, а также выводы и рекомендации по поддержанию здорового образа жизни в городе.

Ключевые слова: условия жизни в большом городе, промышленные предприятия, автомобильные дороги, стресс, активный образ жизни.

Resume. This work describes the effect of various aspects of life in a big city on the health of its residents. The work includes the results of a survey, conducted among the students of Belarusian State Medical University, conclusions and recommendations for maintaining healthy lifestyle in a big city.

Keywords: conditions of life in a big city, industrial enterprises, highways, stress, active lifestyle.

Topicality. Living in a big city is the dream of many young people. Teens from different towns tend to move to the capital for getting higher education and exciting pastime. However, besides a great number of opportunities life in a big city provides numerous health problems. Many chronic respiratory diseases and cardiovascular diseases are caused by air pollution, which is the world's greatest environmental risk to health at present and daily stress. Considering heavy academic workload and lifestyle of the medical students, we have defined the influence of various aspects of living in a big city on their health and possible solutions of this problem.

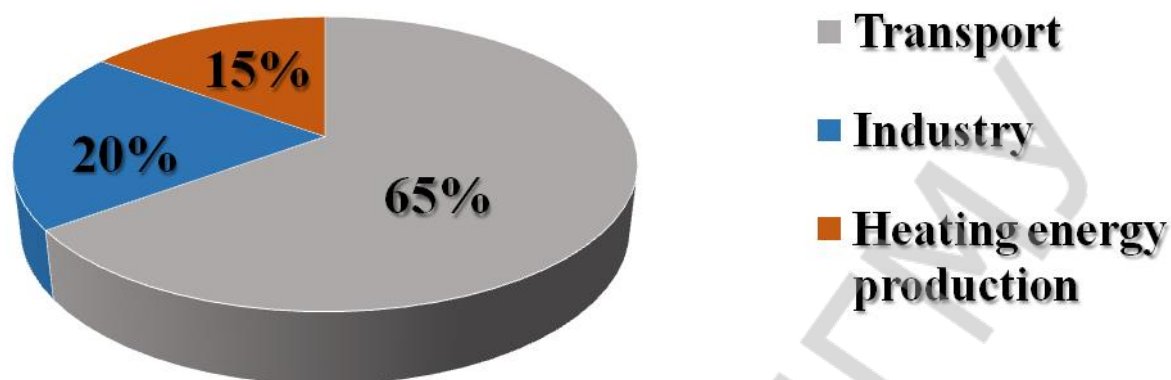
Objective: to find out how the conditions of life in a big city affect its residents and whom to a greater extent – Minsk resident students or the students from other towns.

Tasks:

1. To study the literature on the impact of air pollution and stress on health.
2. To conduct a survey of 120 students of Belarusian State Medical University to find out how the conditions of life in a big city affect them.
3. To develop recommendations for maintaining a healthy lifestyle in a big city.

Material and methods. To find information about the impact of air pollution on health we analyzed native and foreign medical literature, the data from the website of the World Health Organization and electronic medical journals. The survey was conducted among 120 students of Belarusian State Medical University, 54% of them being Minsk residents and 46% coming from other towns. A questionnaire consisted of 11 questions on the topics of environmental influences on health, active lifestyle and students opinions on the major source of stress for them.

Results and discussion. Air pollution of big cities caused by exhaust fumes from industrial enterprises, road traffic, and heat power plants is the world's greatest environmental risk to health at present (picture №1).

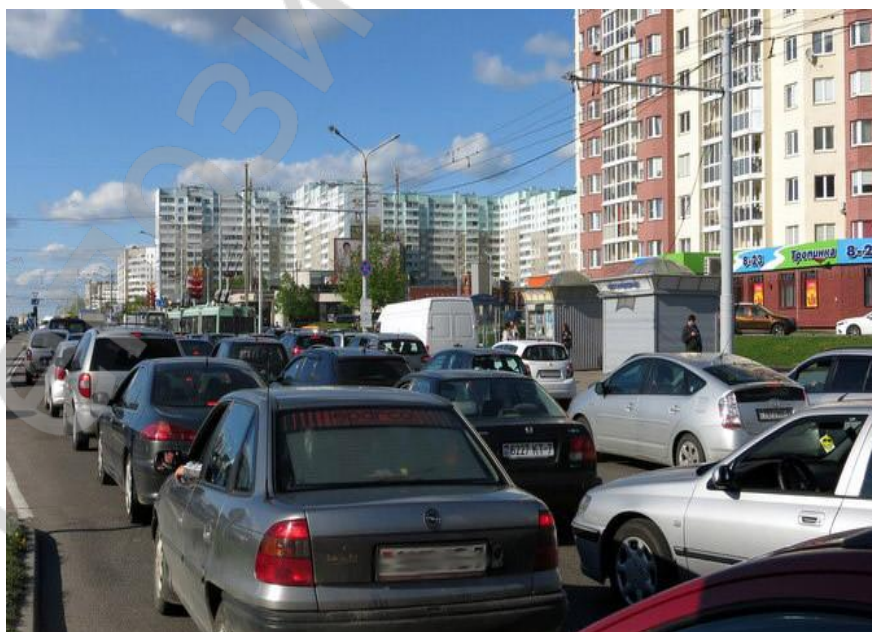


Picture 1 - The sources of air pollution

Automobile exhaust fumes, a high level of background noise cause reduced hearing acuity, increased blood pressure, emotional anxiety, depression and nervous overstrain in the population living close to busy motorways (picture №2).

According to the Building Regulations in the Republic of Belarus, the distance between the border of a city thoroughfare and the wall of a dwelling building must be at least 50 m. However, these norms are sometimes violated after reconstruction (widening) of the existing roads.

Besides a dense network of motorways, there are 3952 industrial enterprises in Minsk, which pollute the atmosphere with particulate matter, carbon monoxide, ozone, nitrogen dioxide and sulfur dioxide (picture №3).



Picture 2 - Motorway in Minsk

Due to the fact that Minsk has considerably expanded, the enterprises which used to be removed from the city are already within its borders now and industrial plants may be located in close proximity to dwelling houses.



Picture 3 – Minsk, Kurasovshchina district

These facts were confirmed by the findings of the survey conducted within the frames of the given research work (table №1).

Table 1. Results of the survey

Question 1: How close to a highway or a motorway is the house you live in?	
<i>a) Close – less than 100 m away</i>	61%
<i>b) More than 100 m away</i>	39%
Question 2: Is there a large industrial enterprise in the area you live in?	
<i>1. Yes</i>	50%
<i>2. No</i>	50%

Therefore deposition of pollutants in the airways of Minsk citizens is inevitable. On inhalation, carbon monoxide forms stable complexes with hemoglobin due to its double bond, thus blocking the transfer of oxygen in blood. A prolonged exposure to sulfur dioxide leads to a loss of taste sensation, suppression of breathing, pneumonia, pulmonary edema, cardiac insufficiency, circulatory problems and respiratory arrest.

Polluted atmosphere is not the only factor of harmful influence on health. Every student is regularly exposed to excessive daily stress due to spending about 8 hours at the lessons and lectures and having a lot of academic material to study at home. According to the data of the World Health Organization stress contributes to 65% of all diseases including many diseases of the nervous, cardiovascular system, digestive tract and malignant neoplasms.

According to the conducted survey, we observed the following difference between the answers given by Minsk resident students and the students from other towns (table №2).

Table 2. Results of the survey, the difference between the answers given by Minsk resident students and the students from other towns

Criterion	Minsk resident students	Students from other towns
Have chronic respiratory diseases	17%	10%
Have specific symptoms due to the wastes from the industrial enterprises and road traffic	38%	55%
Don't spend enough time in the open air	79%	81%
Don't have the opportunity to rest outside the city	7%	12%
Insufficiently engaged in active kinds of outdoor sports	78%	91%
Smoke	12%	4%
Would like to live in a big city	41%	24%

Summarizing the results, we found out that the organisms of young people who are influenced by the negative environment of the city since their childhood are less sensitive to adverse environmental factors with time. Moreover, the majority of the students of both groups don't have enough time to spend it outdoors to be sufficiently engaged in sports.

Conclusions:

1. The environment of a big city influences the health of all of its residents to a certain extent causing chronic respiratory diseases, diseases of the cardiovascular system, nervous system and digestive tract.

2. For students from other towns the environment of a big city is unusual and aggressive and has a detrimental effect on their health.

3. An active lifestyle assuming taking a walk in a park, jogging, riding a bike for 30 minutes a day, daily morning exercises, taking part in active kinds of sports will help city dwellers stay healthy.

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THE MEDICAL ASPECTS OF LIVING IN A BIG CITY

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