

# ВИВЧЕННЯ ФАКТОРІВ ВПЛИВУ НА ЗДОРОВ'Я СІЛЬСЬКИХ ТА МІСЬКИХ УЧНІВ У ЗАКЛАДАХ ОСВІТИ ЗА САНИТАРНО-ГІГІЄНІЧНИМИ ПОКАЗНИКАМИ УМОВ ПРОВЕДЕННЯ ТА ОРГАНІЗАЦІЇ НАВЧАННЯ

Махнюк В.М., Гаркавий С.І., Назаренко В.І., Чорна В.В.

## RESEARCH OF THE FACTORS INFLUENCING THE HEALTH OF RURAL AND URBAN SCHOOLCHILDREN STUDYING AT SECONDARY EDUCATIONAL INSTITUTIONS BY SANITARY-HYGIENIC INDICATORS

<sup>1</sup>МАХНІУК В.М., <sup>2</sup>ГАРКАВИЙ С.І.,  
<sup>3</sup>НАЗАРЕНКО В.І., <sup>4</sup>ЧОРНА В.В.

<sup>1</sup>State Institution «O.M. Marziefiev Institute for Public Health, National Academy of Medical Sciences of Ukraine», Kyiv

<sup>2</sup>National O.O. Bohomolets Medical University, Kyiv, Ukraine

<sup>3</sup>State Institution «Yu.I. Kundiiiev Institute for Occupational Medicine, National Academy of Medical Sciences of Ukraine», Kyiv

<sup>4</sup>National Pyrohov Memorial Medical University, Vinnytsia, Ukraine

The state of children's health care at the secondary schools in Ukraine does not meet today's requirements [1]. The analysis of statistical data and the results of scientific research over the last decade indicates a significant increase in the incidence in the students, the frequent transition of acute diseases into

chronic forms [2-4]. The transition of secondary schools to a new content, structure and 12-years period of study is inseparable from the creation of the necessary conditions for students, as well as teachers, the improvement of the health care of the educational institutions. Reformation of education is a requirement of current glob-

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<sup>1</sup>Махнюк В.М., <sup>2</sup>Гаркавий С.І.,  
<sup>3</sup>Назаренко В.І., <sup>4</sup>Чорна В.В.

<sup>1</sup>ДУ «Інститут громадського здоров'я ім. О.М. Марзєєва НАМН України», м. Київ

<sup>2</sup>Національний медичний університет ім. О.О. Богомольця, м. Київ

<sup>3</sup>ДУ «Інститут медицини праці ім. Ю.І. Кундієва НАМН України», м. Київ

<sup>4</sup>Вінницький національний медичний університет ім. М.І. Пирогова, м. Вінниця

**Мета дослідження:** встановлення залежності показників здоров'я учнів від санітарно-гігієнічних умов і організації навчання у міських та сільських ЗНЗ.

**Методи дослідження:** санітарно-гігієнічне обстеження, епідеміологічний метод з застосуванням санітарно-статистичного, математичного і соціологічного аналізу.

**Результати.** Як показали наші дослідження, матеріально-технічна база міських і сільських ЗНЗ протягом останніх 20 років суттєво не змінилася і не відповідає гігієнічним вимогам (з благоустрою – водопостачання, опалення, каналізація; архітектурно-планувальних рішень – набір приміщень, освітлення, вентиляція) у 72% випадків. Особливо це стосується сільських ЗНЗ, в яких відсутні спортивні зали у 36%, актові зали – у 67%, учбові комп'ютерні кабінети – у 69%. У зв'язку з організацією класів для шестирічних дітей на базі існуючих шкільних приміщень показник фактичної наповнюваності ЗНЗ перевищує проектну у 26,7% міських ЗНЗ і 4,5% сільських ЗНЗ, що призвело до двозмінного режиму навчання. Нині лише п'ята частина учнів перших

класів України (майже 22%) має необхідні умови для перебування і навчання, а решта першокласників (майже 78%) навчається у ЗНЗ, які таких умов не мають. У зазначених ЗНЗ було детально вивчено і проаналізовано дані статистичної звітності та медичної документації становно 49193 учнів.

Кількість дітей з функціональними порушеннями стану здоров'я (II і III групи здоров'я) закономірно більша в усіх вікових групах обстежених учнів, що навчалися у ЗНЗ з незадовільними санітарно-гігієнічними умовами і організацією навчально-виховного процесу, порівняно з аналогічними показниками в їхніх однолітків, які навчалися в оптимальних умовах.

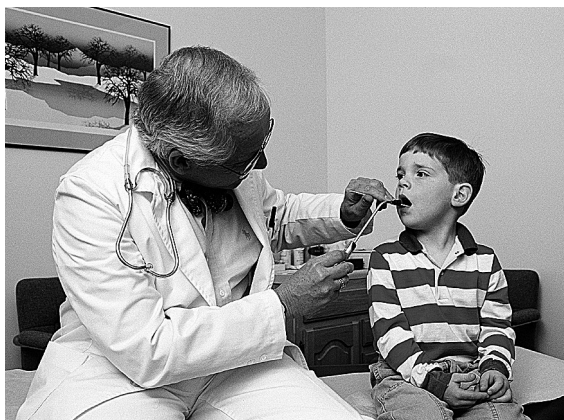
Доведено залежність показників здоров'я дітей від умов та організації навчання у ЗНЗ – питома вага хворих учнів у 2-х, 5-х і 7-х класах ЗНЗ з задовільними умовами була меншою порівняно з аналогічними класами, де ці умови незадовільні (у 2-х класах – 13,3% проти 15,8% ( $p < 0,05$ ), у 5-х класах – 9,5% проти 10,2% ( $p < 0,05$ ), у 7-х класах – 8,9% проти 13,9% ( $p < 0,001$ ). Показники гострої захворюваності загальною у ЗНЗ з задовільними умовами в 1,3 рази менші порівняно з ЗНЗ з незадовільними умовами ( $p < 0,001$ ). В учнів міських та сільських ЗНЗ з незадовільними умовами навчання та у поєднанні з двозмінною організацією навчання показники загальної, первинної, гострої, інфекційної захворюваності та патологічної ураженості школярів вищі в 1,2, 1,3, 1,5 та в 1,1 рази порівняно з ЗНЗ, в яких є задовільні умови і організація навчання ( $p < 0,05$ ).

**Ключові слова:** міські і сільські загальноосвітні навчальні заклади, законодавча база, організація і умови навчання, реформування освіти, школярі, функціональний стан, захворюваність.

al trends, because only its implementation can bring about 20% of national income growth in the countries with advanced modern technologies. Nowadays, the practical task of the creation of the conditions necessary to ensure the harmonious development of a young person as a unique one and the highest value for society, the development of his talents, mental and physical abilities, formation of the citizens capable of conscious social choice, enrichment on this basis the intellectual, creative and cultural potential of the people faces the secondary educational institution (SEI) as the main link of public education [1, 5]. Thus, the above data indicate the relevance of the scientific elaborations in the solution of the problem of the protection and preservation of the health of the students of secondary educational institutions during 12 years which is many-sided and acute right now.

**The objective** of our research was to determine the dependence of the indicators of students' health on the sanitary-hygienic conditions and the organization of training in urban and rural SEI.

**Materials and methods of research.** The methods of sanitary-hygienic examination, epidemiological method with the application of sanitary-statistical, mathematical and sociological analysis were used in the work. Epidemiological and sanitary-statistical methods were used to analyze the incidence and health of the students. All SEI were examined according to the specially designed deep scheme that included 114 sanitary-hygienic indicators. According to these indicators, all 96 SEI were divided into 4 groups: urban SEI where optimum conditions for learning were created, i.e. satisfactory conditions; urban SEI without optimum conditions, i.e. with unsatisfactory conditions, respectively, rural



## ГІГІЄНА ДІТЕЙ ТА ПІДЛІТКІВ

SEI with satisfactory conditions and rural SEI with unsatisfactory conditions. The basic aspect of the problem, which was solved in the work, concerned the study of the conditions and organization of the training of the children and their health in rural and urban secondary educational institutions during the reformation of education in Ukraine.

### Results and discussion.

Education reformation in our country envisages the early start of systematic schooling for children from the age of 6 and the transition to a long 12-years period of secondary education. At the same time, there are controversies in the legislation of the country regarding the age «qualification» of the enrollment of the children into the SEI, i.e. according to the Law of Ukraine «On Education» the education of children begins «from the age of six or seven years», and the Law of Ukraine «On General Secondary Education» defines another norm : «...usually from 6 years».

But according to the scientific studies of the functional readiness of the first-graders, only 55-68% of six-years-old are ready for systematic training, 77-80% of such children are among seven-years-old children [3]. The implementation of such a categorical norm is not also substantiated by the absence of the regulated conditions for children of six years of age at many schools, since the main resource of school buildings was built in the mid-

dle of the last century and is not adapted for the children of six years of age and 12 class parallels. Our studies demonstrate that the material and technical basis of urban and rural SEI has not changed significantly over the last 20 years and does not meet the hygienic requirements (equipping with services and utilities – water supply, heating, sewerage; in architectural-and-planning decisions – set of premises, lighting, ventilation) in 72% of cases. It is especially concerned with the rural SEI, where there are no gymnasiums in 36%; assembly halls in 67%; training computer rooms in 69%. Due to the organization of the grades for the children six years of age on the basis of existing school premises, the index of actual occupancy of the SEI exceeds the design level by 26.7% in urban SEI and by 4.5% in rural SEI, which has resulted in a two-session training regime. The reconstruction, construction, architectural-and-planning decisions in order to create conditions for the children of six years of age, i.e. a set of premises, are not provided by any valid normative-and-legal act and existing domestic programs. Nowadays, only one-fifth of the first-grade students in Ukraine, i.e. about 22%, have necessary conditions for stay and study, and the rest, almost 78% of the first-year students study at SEI where there are no such conditions. There are no necessary medical premises (pediatrician, dentist, procedural and psy-

cho-physiological discharge rooms) in more than 80% of examined SEI. There are no school doctors or nurses in 25% urban and over 70% rural SEI.

In mentioned SEI, the data of statistical reporting and med-

ical records of 49,193 students, have been studied and analyzed in details: distribution of the students into physical training groups (main, preparatory, special) in general at school and by grades; distribution of the students by health groups (I, II, III, IV) in general at school and by grades; indicators of general, primary, acute and infectious incidence; indicators of pathological lesion; the health index and the number of children who are sick often and for a long time during the year (table 1).

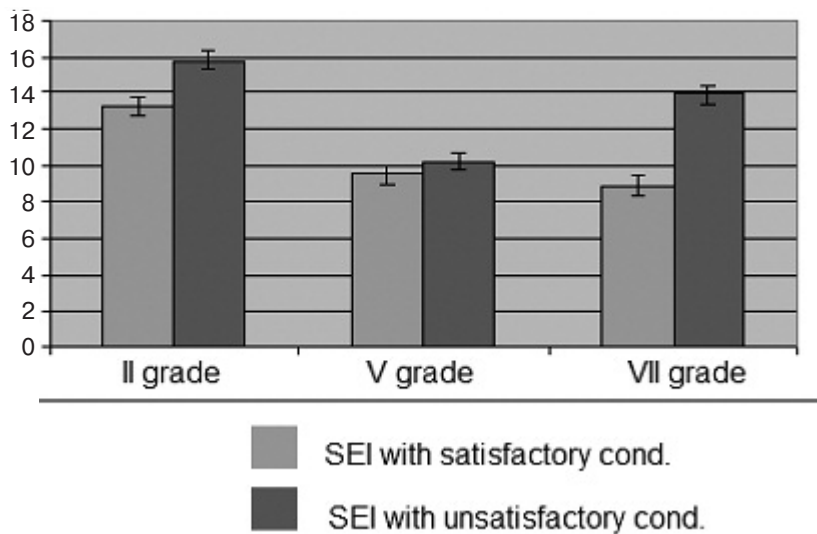
The proportion of the school-children (in general at the examined schools) referred to

the preparatory and special physical education groups in urban SEI with unsatisfactory conditions was higher than in urban SEI with satisfactory conditions and made up, respectively, 19.7% and 4.7% vs. 11.0% and 4.0%. It was also proved that the proportion of the students referred to the III health group in the 2-nd, 5-th and 7-th grades at SEI with satisfactory conditions was lower in comparison with similar grades of the SEI with unsatisfactory conditions and made up 13.3% vs 15.8% ( $p < 0.05$ ) in 2-nd grades; 9.5% vs 10.2% ( $p < 0.05$ ) in 5-th grades; 8.9% vs 13.9% at  $p < 0.001$  in 7-th grades (figure 1). The indicators of acute incidence as a whole for the SEI with satisfactory conditions are 1.3 times as less than for the SEI with unsatisfactory conditions ( $p < 0.001$ ).

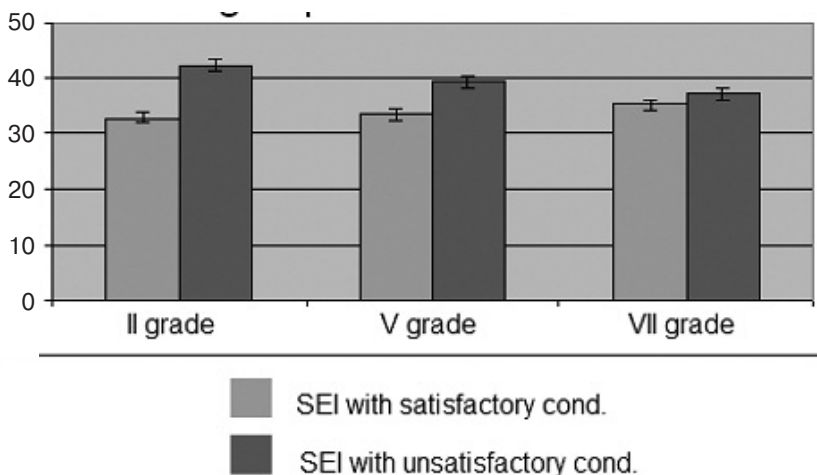
The proportion of the students (in general in the examined SEI) referred to the preparatory and special physical training groups in rural SEI with unsatisfactory conditions was higher than in rural ones where they were satisfactory and made up 16.1% and 7.4% vs 11.7% and 4.7%. We also established that the proportion of the students classified as II and III health groups was lower in 2-nd, 5-th and 7-th grades of the SEI with satisfactory conditions in comparison with the similar grades of SEI with unsatisfactory conditions and made up 32.9% and 12.5% vs 42.2% and 14.5% in 2-nd grades; 33.4% and 16.2% vs 39.3% and 20.1% ( $p < 0,05$ ) in 5-th grades; 35.2% and 11.9% vs 37.1% and 19.7% in 7-th grades. In comparison with the similar urban SEI, the proportion of the students was 2 and 1.5 times as high in the health group III in the 5-th and 7-th grades of rural SEI with unsatisfactory conditions (figures 2, 3).

As it is demonstrated at the figures 2 and 3, the number of the children with functional disorders in health state (II and III

**Figure 1**  
Proportion of the students referred to the III group according to state of health at urban SEI with different conditions, %



**Figure 2**  
Proportion of the students referred to the II group according to state of health at rural SEI with different conditions, %





RESEARCH OF THE FACTORS INFLUENCING THE HEALTH OF RURAL AND URBAN SCHOOLCHILDREN STUDYING AT SECONDARY EDUCATIONAL INSTITUTIONS

BY SANITARY-HYGIENIC INDICATORS

<sup>1</sup>Makhniuk V.M., <sup>2</sup>Harkavyi S.I.,

<sup>3</sup>Nazarenko V.I., <sup>4</sup>Chorna V.V.

<sup>1</sup>State Institution «O.M. Marzieiev Institute for Public Health, National Academy of Medical Sciences of Ukraine», Kyiv

<sup>2</sup>National O.O. Bohomolets Medical University, Kyiv, Ukraine

<sup>3</sup>State Institution «Yu.I. Kundiiiev Institute for Occupational Medicine, National Academy of Medical Sciences of Ukraine», Kyiv

<sup>4</sup>National Pyrohov Memorial Medical University, Vinnytsia, Ukraine

**Objective:** to determine the dependence of the indicators of students' health on the sanitary-hygienic conditions and the organization of training in urban and rural SEI.

**Methods:** sanitary and hygienic examination; epidemiological method with the application of sanitary-statistical, mathematical and sociological analysis.

**Results:** Our studies demonstrate that the material and technical basis of urban and rural SEI has not changed significantly over the last 20 years and does not meet the hygienic requirements (equipping with services and utilities – water supply, heating, sewerage; in architectural-and-planning decisions – set of premises, lighting, ventilation) in 72% of cases. It is especially concerned with the rural SEI, where there are no gymnasiums in 36%; assembly halls in 67%; training computer rooms in 69%. Due to the organization of the grades for the children six years of age on the basis of existing school premises, the index of actual occupancy of the SEI exceeds the design level by 26.7% in urban SEI and by 4.5% in rural SEI, which has resulted in a two-session

training regime. Nowadays, only one-fifth of the first-grade students in Ukraine, i.e. about 22%, have necessary conditions for stay and study, and the rest, almost 78% of the first-year students study at SEI where there are no such conditions.

In mentioned SEI, the data of statistical reporting and medical records of 49,193 students, have been studied and analyzed in details.

The number of the children with functional disorders in health state (II and III health groups) is naturally higher in all age groups of surveyed students who studied at SEI with unsatisfactory sanitary-hygienic conditions and the organization of educational process in comparison with the similar indicators in their peers who studied under optimum conditions.

Dependence of health indicators of the children on the conditions and organization of training at school has been substantiated.

The proportion of sick students in 2-nd, 5-th and 7-th grades with satisfactory conditions was lower in comparison with the similar grades where these conditions were unsatisfactory (13.3% vs. 15.8% ( $p < 0.05$ ) in 2-nd grades; 9.5% vs. 10.2% ( $5 < p$ ) in 5-th grades; 8.9% vs 13.9% ( $p < 0.001$ ) in 7-th grades). In urban and rural students at SEI with unsatisfactory conditions for training and in a combination with a two-session training organization, the general, primary, acute, infectious and pathological lesion rates of the students are 1.2; 1.3; 1.5 and 1.1 times as high, respectively, in comparison with the SEI with satisfactory conditions and organization of training ( $p < 0.05$ ).

**Keywords:** urban and rural secondary educational institutions, legislative framework, organization and conditions for training, reformation of education, students, functional state; incidence.

health groups) is naturally higher in all age groups of surveyed students who studied at SEI with unsatisfactory sanitary-hygienic conditions and the organization of educational process in comparison with the similar indicators in their peers who studied under optimum conditions.

The data in table 2 show that at two-session training organization of education, the rates of general, primary, acute, infectious incidence and

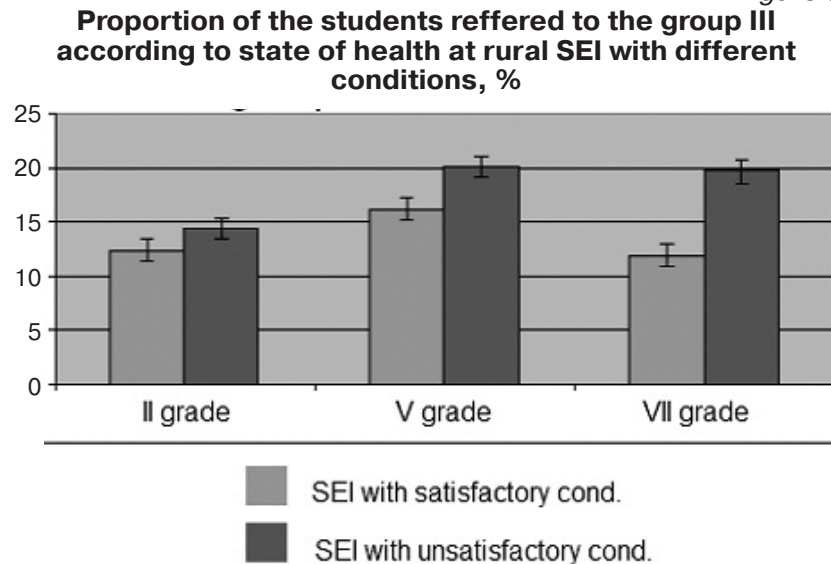
pathological lesions of the students are 1.2; 1.3; 1.5 and 1.1 times as high at SEI with unsatisfactory conditions in comparison with the SEI where these conditions are satisfactory. It was reliably established that at the two-session organization of the educational process the number of the students referred to II and III health groups in 2-nd grades was almost twice as low as the number of the students in the similar grades of

the SEI with unsatisfactory conditions ( $p < 0.01$ ). A similar situation is observed among the 7-th grade students: under unsatisfactory conditions and in combination with the two-session organization of the training process, the proportion of the students referred to II and III health groups is 43.2% and 16.9%, while under satisfactory conditions, these percentages are 38.1% and 13.5%, respectively ( $p < 0.01$ ).

It was established that without health care under conditions of the SEI, the rates of primary, acute incidence and the number of the children who were sick often and for a long time during the year were 1.8; 1.5 and 1.4 times as high among the students at SEI with unsatisfactory conditions in comparison with the similar indicators among students of

the SEI with satisfactory conditions (table 3, figure 4). It was also detected that without medical care, the proportion of the students referred to III health group and special group in physical training with an unsatisfactory conditions was 2.5 and 2 times as high than at SEI with satisfactory conditions and made up 7.2% and 5.3 and % vs. 2.8% and 3.8% ( $p < 0.01$ ).

Figure 3



The data from the figure 5 and table 4 indicate that at the absence of health care and nutrition at SEI, the rates of general, primary, acute, incidence and number of children who are sick often and for a long time during the year were 1.2; 1; 1.6, 1.6 and 1.7 times as high at SEI with unsatisfactory conditions in comparison with the similar indicators in the students who studied under satisfactory conditions. The rate of pathological lesion in children is also 1.3 times as high. The structure of the distribution of the students by health groups and physical training groups had its own specificity. The proportion of the students classified as health group III and the special group in physical training was 2.6 and 2.1 times as high, respectively, in the SEI with satisfactory conditions and was 7.7% and 5.3% vs. 2.9% and 2.5%. Similar data were also revealed by age structure: the proportion of the students referred to the health group III who studied at SEI with unsatisfactory conditions was 13.8% in the 2-nd grade, which is 2.5 times as many as the indicator in the students with satisfactory conditions; 25.5% (4.5 times) in the 5-th grade; 16.6% (1.6 times) in the 7-th grade.

Table 1

**Indicators of children's health at two-session regime of training**

Indicators	SEI with satisfactory conditions	SEI with unsatisfactory conditions
General incidence, ‰	723.7	881.1
Primary incidence, ‰	375.876	483.7
Acute incidence, ‰	73.9	110.6*
Infectious incidence, ‰	33.1	42.2
Pathological lesion, %	25.5	28.5

Note: \* – the difference is statistically significant ( $p < 0.05$ ) in comparison with the SEI with satisfactory conditions.

Table 2

**Health indicators of the students studied under different conditions at the absence of health care at SEI**

Indicators	SEI with satisfactory conditions	SEI with unsatisfactory conditions
Primary incidence, ‰	220.9±35.9	403.5±40.5*
Acute incidence, ‰	57.9±15.4	84.2±11.4
Pathological lesion, %	26.2±39	27.2±3.5*
Number of children that are sick often and for a long period of time, %	6.5±1.8	8.7±0.8

Note: \* – the difference is statistically significant ( $p < 0.05$ ) in comparison with the SEI with satisfactory conditions.

Thus, according to the results of our own research, data of the official statistics and mathematical processing, the impact of sanitary-hygienic conditions and organization of training on health indicators in the students at SEI has been proved:

□ both in rural and in urban SEI, the proportion of the students as a whole and by age structure who have chronic diseases and who study under unsatisfactory conditions is higher in comparison with urban and rural SEI where conditions for training are satisfactory from the hygienic point of view. The proportion of the students referred to health group III, i.e. sick, was 2 and 1.5 times as high in 5-th and 7-th grades of rural SEI with unsatisfactory conditions in comparison with the similar indicators in the students of urban SEI with unsatisfactory conditions;

□ in SEI, where there were no satisfactory conditions for study and in combination with a two-session working regime, the indicators of general, primary, acute, infectious incidence and pathological lesion of the students were 1.2; 1.3; 1.5 and 1.1 times as high in comparison with similar indicators of the students with satisfactory conditions, the proportion of the students in the 2-nd grades who were referred to the II and III health groups according to their health state were twice as many in comparison with the similar indicators of the students under satisfactory conditions (at  $p < 0,01$ );

□ at the absence of health care under conditions of SEI, the rates of primary, acute incidence and the number of children who were sick often and for a long time during the year were 1.8; 1.5 and 1.4 times as many at SEI with unsatisfactory conditions in comparison with the similar indicators in the students at SEI with satisfactory conditions. The proportion of the students referred to III health group and a special group in physical training at SEI with satisfactory conditions was 2.5 and 2 times fewer, respectively, in comparison with the similar indicators of SEI students with unsatisfactory conditions ( $p < 0.01$ );

□ at SEI, where there are no satisfactory conditions for study and in the combination with the absence of health care and nutrition at SEI, the rates of general, primary,

acute incidence and the number of children, who are sick often and for a long time during the year, were 1.2; 1.6; 1.6 and 1.7 times as high, respectively, in comparison with the similar rates in the students who studied under satisfactory conditions. The pathological lesion rate of the schoolchildren is also 1.3 times as high. The proportion of the students referred to the health group III by the health state and a special group in physical training was 2.6 and

2.1 times as high at SEI with unsatisfactory conditions than at SEI with satisfactory

Figure 4

The proportion of the students referred to the special group in physical training and to group III according to the health state at SEI with different conditions and at the absence of medical care at school, %

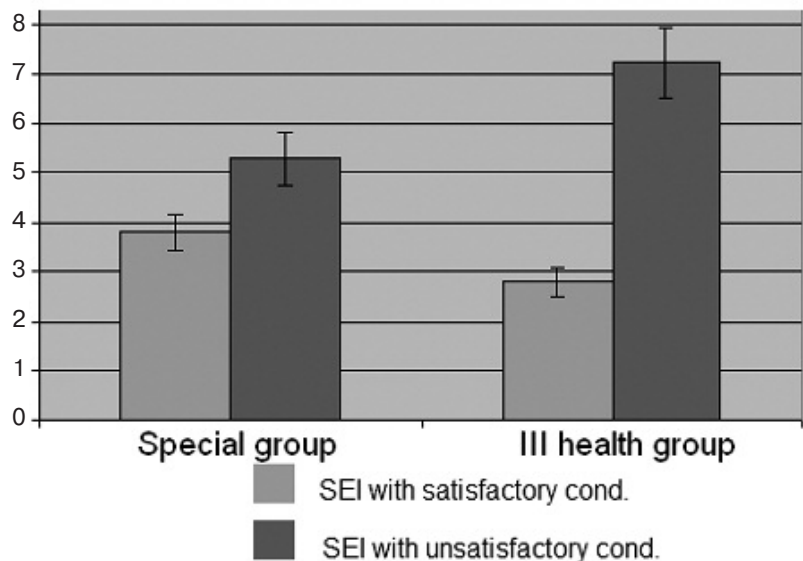
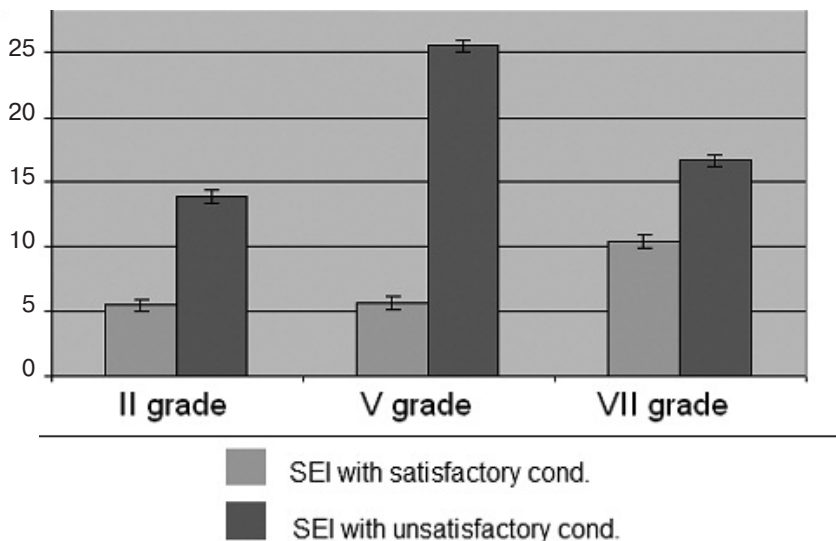


Figure 5

Proportion of the students referred to the health group III at SEI with different conditions at the absence of health care and nutrition, %





**ИЗУЧЕНИЕ ФАКТОРОВ ВЛИЯНИЯ НА ЗДОРОВЬЕ СЕЛЬСКИХ И ГОРОДСКИХ УЧАЩИХСЯ В УЧРЕЖДЕНИЯХ ОБРАЗОВАНИЯ ПО САНИТАРНО-ГИГИЕНИЧЕСКИМ ПОКАЗАТЕЛЯМ УСЛОВИЙ ПРОВЕДЕНИЯ И ОРГАНИЗАЦИИ ОБУЧЕНИЯ**

<sup>1</sup>Махнюк В.М., <sup>2</sup>Гаркавий С.И.,  
<sup>3</sup>Назаренко В.И., <sup>4</sup>Чорная В.В.

<sup>1</sup>ДУ «Институт общественного здоровья им. А.Н. Марзеева НАМН Украины», г. Киев

<sup>2</sup>Национальный медицинский университет им. А.А. Богомольца, г. Киев, Украина

<sup>3</sup>ДУ «Институт медицины труда им. Ю.И. Кундиева НАМН Украины», г. Киев

<sup>4</sup>Винницкий национальный медицинский университет им. Н.И. Пирогова, г. Винница, Украина

**Цель исследования:** установление зависимости показателей здоровья учащихся от санитарно-гигиенических условий и организации обучения в городских и сельских ОУЗ.

**Методы исследования:** санитарно-гигиеническое обследование, эпидемиологический метод с применением санитарно-статистического, математического и социологического анализов.

**Результаты.** Как показали наши исследования, материально-техническая база городских и сельских ОУЗ на протяжении последних 20 лет существенно не изменилась и не соответствует гигиеническим требованиям (по благоустройству – водоснабжение, отопление, канализация; по архитектурно-планировочным решениям – набор помещений, освещение, вентиляция) в 72% случаев. В первую очередь, это касается сельских ОУЗ, у которых отсутствуют спортивные залы – 36%, актовые залы – 67%, учебные компьютерные кабинеты – 69%. В связи с организацией классов для шестилетних детей на базе существующих школьных помещений показатель фактической наполняемости ОУЗ превышает проектную в 26,7% городских ОУЗ и в 4,5% сельских ОУЗ, что вынудило перейти на двухсменный режим обучения.

Ныне только пятая часть учащихся первых классов Украины (почти 22%) имеет необходимые условия для пребывания и

обучения, а остальные первоклассники (почти 78%) учатся в заведениях, не имеющих надлежащих условий.

В указанных ОУЗ были детально изучены и проанализированы данные статистической отчетности и медицинской документации по 49193 учащихся.

Количество детей с функциональными нарушениями состояния здоровья (II и III группы здоровья) закономерно больше во всех возрастных группах обследованных учащихся, которые учились в заведениях с неудовлетворительными санитарно-гигиеническими условиями и организацией учебно-воспитательного процесса по сравнению с аналогичными показателями у их сверстников, имеющих оптимальные условия.

Доказана зависимость показателей здоровья детей от условий и организации обучения в ОУЗ: удельный вес больных учеников во 2-х, 5-х и 7-х классах учебных заведений с удовлетворительными условиями была меньше по сравнению с аналогичными классами, где эти условия неудовлетворительные (во 2-х классах – 13,3% против 15,8% ( $p < 0,05$ ), в 5-х классах – 9,5% против 10,2% ( $p < 0,05$ ), в 7-х классах – 8,9% против 13,9% ( $p < 0,001$ ). Показатели острой заболеваемости в целом по ОУЗ с удовлетворительными условиями в 1,3 раза меньше по сравнению с ОУЗ с неудовлетворительными условиями ( $p < 0,001$ ). У учащихся городских и сельских учебных заведений с неудовлетворительными условиями обучения и в сочетании с двухсменной организацией обучения показатели общей, первичной, острой, инфекционной заболеваемости и патологической пораженности школьников выше в 1,2, 1,3, 1,5 и в 1,1 раза по сравнению с ОУЗ, имеющими удовлетворительные условия и организацию обучения ( $p < 0,05$ ).

**Ключевые слова:** городские и сельские общеобразовательные учебные заведения, законодательная база, организация и условия обучения, реформирования образования, школьники, функциональное состояние, заболеваемость.

conditions. The proportion of the students referred to group III by the health state in the 2-nd, 5-th and 7-th grades at SEI with unsatisfactory conditions was 2.5; 4.5 and 1.6 times as high than at

SEI with satisfactory conditions.

#### Conclusions

1. The transition of secondary school to a new content, structure and 12-years term of education is taking place at the

outdated material and technical base of urban and rural SEI which has not changed significantly over last 20 years and does not meet the hygienic requirements (in equipping of services and utilities – water

supply, heating, sewage; in architectural and planning decisions – set of premises, lighting, ventilation, school furniture) in 72% of cases. It is especially concerned with the rural SEI where there are no gymnasiums (in 36%); assembly halls (in 67%); training computer rooms (in 69%).

2. Due to the organization of the grades for the children of six years of age on the basis of existing school premises, the indicator of actual occupancy of the SEI exceeds the design level in 26.7% of urban SEI and in 4.5% of rural SEI, which has resulted in a two-session training regime.

3. There is no adequate material and technical basis for canteens and food blocks: 30.5% of school canteens operate under adapted conditions; 25% of food blocks are not provided with cold running water and 20% are not provided with appropriate refrigeration and technological equipment. Nutrition of the students is organized in 83.6% of secondary educational institutions and in one-third of them only at the expense of buffet products.

4. There are no necessary medical premises (pediatrician; dentist; procedural and psycho-physiological discharge rooms) in 81% of surveyed SEI, 25% urban and over 70% rural SEI are not provided with the school doctors or nurses. There is no consistency and hereditary in the performance deep medical examinations and corresponding complex

preventive-sanitary measures under conditions of school in 79% of SEI.

5. Dependence of health indicators of the children on the conditions and organization of training at school has been substantiated. The proportion of sick students in 2-nd, 5-th and 7-th grades with satisfactory conditions was lower in comparison with the similar grades where these conditions were unsatisfactory (13.3% vs. 15.8% ( $p < 0.05$ ) in 2-nd grades; 9.5% vs. 10.2% ( $5 < p$ ) in 5-th grades; 8.9% vs 13.9% ( $p < 0.001$ ) in 7-th grades). In urban and rural students at SEI with unsatisfactory conditions for training and in a combination with a two-session training organization, the general, primary, acute, infectious and pathological lesion rates of the students are 1.2; 1.3; 1.5 and 1.1 times as high, respectively, in comparison with the SEI with satisfactory conditions and organization of training ( $p < 0.05$ ).

As a result of the study of the hygienic provision of optimum conditions and organization of the training of the children at the modern urban and rural secondary educational institutions, the patterns of the impact of conditions and organization of training on the indicators of functional state and incidence in the students have been revealed. A negative correlation between unsatisfactory conditions in combination with the absence of health care and nutrition at the secondary educational institutions

Table 3

**Students' health indicators at the absence of health care and nutrition at SEI**

Indicators	SEI with satisfactory conditions	SEI with unsatisfactory conditions
General incidence, ‰	360.2±10.6	439.0±17.0
Primary incidence, ‰	164.1±36.8	269.0±42.0
Acute incidence, ‰	49.2±12.4	71.6±9.2
Pathological lesion, %	9.1±1	11.7±3.6
Number of children that are sick often and for a long time, %	7.5±2.3	12.6±0.0

and the health indicators of the students has been established, which requires organizational, sanitary-hygienic measures aimed at the optimization of the conditions and organization of training and prevention of «school» diseases.

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