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HEREDITY STATE AMONG STUDENTS AND ITS RELATION TO SELF-ASSESSMENT OF HEALTH

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Author contribution: A – study design; B – data collection;
C – statistical inference; D – manuscript production.

Abstract

Aim is to study heredity state among the university students and determine its relation to self-assessment of health.

Methods. There are the results of examination of 66 Borys Grinchenko Kyiv University students. These were 30 males (45,5 %), and 36 females (54,4 %). Average age was 19,47±1,94 (95 % C.I.: 18,99–19,95) years old. Heredity state was investigated by survey of students using special questionnaire containing questions about closest or distant genetic relatives having been diagnosed different diseases or pathological conditions. For self-assessment the V.P. Voitenko questionnaire (1991) was used.

Results. Heredity state among the university students is characterized with closest relatives having been diagnosed hypertension – 45,5 % (30/66), allergic reactions and/or bronchial asthma – 27,3 % (18/66), and digestive tract diseases – 27,3 % (18/66) of cases, and with distant relatives having been diagnosed malignant states (cancer) and allergic reactions, and/or bronchial asthma – 10,6 % (7/66) of cases for both indicators. According to the students' self-assessment, among most of them (54,5 %; 36/66) poor or ill health states were revealed. Current health state of those surveyed substantially depended on closest relatives having been diagnosed hypertension (χ^2=18,48, p=0,02991), and respiratory diseases (χ^2=25,53, p=0,00242).

Conclusions. Heredity state among students is characterized with closest relatives having been diagnosed hypertension, allergic reactions and diseases, and digestive tract diseases, and current health state is characterized as poor and ill (54,5 %; 36/66) being substantially related to genetic relatives having been diagnosed hypertension and respiratory diseases.

Keywords: student, heredity state, self-assessment of health, V.P. Voitenko questionnaire.

Introduction

Human health, its formation, preservation, and promotion appear to be a major challenge for all industrialized countries of the world, including Ukraine. Particular attention is given to youth health [5, 13]. Investigations of numerous native scientists claim deterioration of health among the students studying in higher education institutions (HEI) [1, 2, 7, 10, 15, 16, 19 та ін.].

Health problems of this very group of young people while studying at HEI are mostly related to social environment change. This can appear as changes of common life stereotypes, place of living, conditions of self-studying, nutrition regimen and quality, etc. Researchers mark great influence of the students' lifestyle on their health as a prominent reason [14, 17, 20]. The factors of health deterioration indicated are not fully realized by students themselves. E.L. Lutsenko, E.A. Andronnykova (2015) report the data saying that one-fourth to one-third of first-year students (17 years old) have no idea of and underestimate the factors having impact on human health formation [9]. In the mind of

many students the main factors determining their own health state are external (objective) factors: living conditions, ecology, heredity, and personal factors having impact on health deterioration (smoking, alcohol, drug abuse) are underestimated by them [3]. It is known that maintaining a healthy lifestyle by students, having enough physical activity, and applying health preservation means allows preserving and promotion of health [4, 14, 20, 22].

Heredity has its own role in formation of health among youth. Still few researches have been conducted on this topic. Today it is considered that heredity determines the heath of young people by 18–22 % [12].

Search and analysis of the defined topic in foreign sources showed absence of research with such formulation of scientific issue. Still, abroad attention is paid to health preservation competencies education among university student youth, educational programs in health formation and maintenance both in personal life and professional activity if it concerns medical students, are implemented [6, 8, 18]. So, establishing the role of heredity in formation of health state of youth, particularly students, is poor and needs further investigations.

Research objective is to study heredity state among the university students and determine its relation to self-assessment of health.

Methods

66 students of Borys Grinchenko Kyiv University have been examined. There were 30 males (45,5 %), and 36 females (54,4 %). Average age was (M±σ) 19,47±1,94 (95 % confidence interval: 18,99–19,95) years old.

Heredity state was examined by the survey of students using special questionnaire containing questions about genetic relatives having been diagnosed the following diseases or pathological conditions:

- hypertension;
- myocardial infarction;
- cerebral stroke;
- rheumatism;
- malignant states (cancer);
- allergic reactions and/or bronchial asthma;
- respiratory diseases;
- peptic ulcer;
- digestive tract diseases;
- kidney and urinary tract diseases;
- diabetes;
- congenital diseases and disorders.

The students completed the survey on their own. To each given question the surveyed gave answers by choosing one of the positions:

- not known;
- are no / were no;
- yes, distant relatives (uncles, aunts);
- yes, closest relatives (parents, brothers / sisters, grandparents).

For self-assessment of health the V.P. Voitenko questionnaire (1991) was used [21], including answering 28 questions. Then the sum of points was calculated (the higher the sum is, the worse the state of health is) and the conclusion on health state of the surveyed was given:

- 0 points – good health state;
- 1–5 points – satisfactory health state;
- 6–10 – unsatisfactory health state;
- 11–20 – bad health state;
- more than 20 points – very bad health state.

Statistical description of the sample was implemented using the method of order statistics assessment. There were measured: average mean value (M), mean square deviation value (σ) and 95 % confidence interval (95 % CI). Relation between indicators of heredity and health self-assessment was accomplished by calculation of χ^2 criterion. Data processing was completed using STATISTICA 6.0 software product (StatSoft Company, USA).

Results and discussion

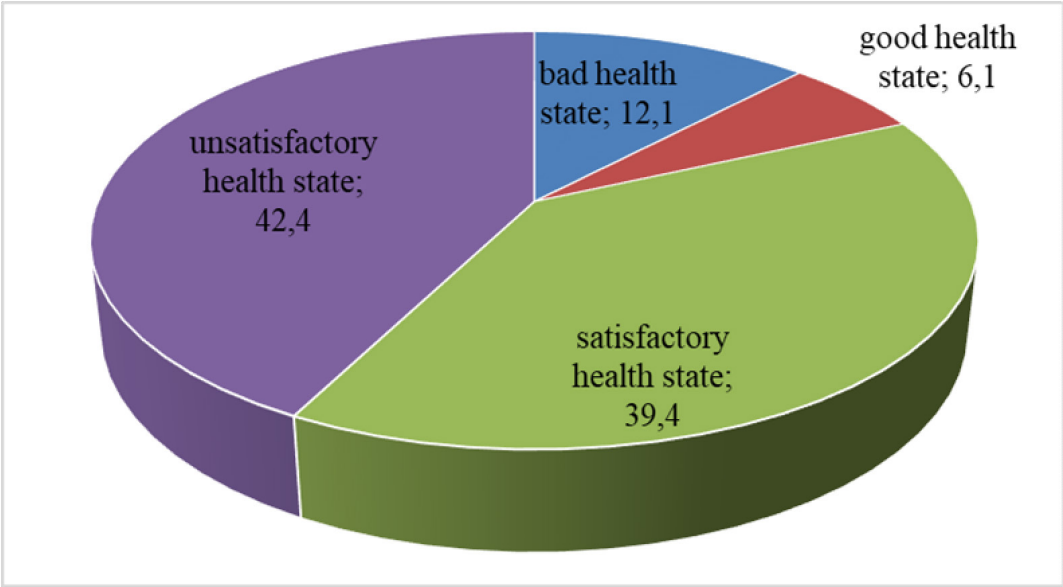
The results of the analysis of heredity state of the university students surveyed are given in the table 1. Mostly among the students' closest relatives occurred hypertension – 45,5 % (30/66), allergic reactions and/or bronchial asthma – 27,3 % (18/66), and digestive tract diseases – 27,3 % (18/66) of cases. Among distant relatives mostly occurred malignant states (cancer) and allergic reactions and/or bronchial asthma – both indicators were 10,6 % (7/66) of cases.

Table 1

Distribution of the answers given to the questionnaire on heredity state of the university students

The question about genetic relatives having been diagnosed	Not known		Are no / were no		Yes, distant relatives		Yes, closest relatives	
	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Hypertension	15	22,7	20	30,3	1	1,5	30	45,5
Myocardial infarction	10	15,2	44	66,7	3	4,5	9	13,6
Cerebral stroke	10	15,2	42	63,6	2	3,0	12	18,2
Rheumatism	17	25,8	39	59,1	4	6,1	6	9,1
Malignant states (cancer)	10	15,2	35	53,0	7	10,6	14	21,2
Allergic reactions and/or bronchial asthma	8	12,1	33	50,0	7	10,6	18	27,3
Respiratory diseases	15	22,7	38	57,6	2	3,0	11	16,7
Peptic ulcer	16	24,2	31	46,9	3	4,5	16	24,3
Digestive tract diseases	20	30,3	25	37,9	3	4,5	18	27,3
Kidney and urinary tract diseases	15	22,7	35	53,0	4	6,1	12	18,2
Diabetes	8	12,1	40	60,6	2	3,0	16	24,3
Congenital diseases and disorders	12	18,2	46	69,7	2	3,0	6	9,1

The analysis of the students' health conducted according to their self-assessment showed occurrence of unsatisfactory health state among 42,4 % (28/66) of students, satisfactory health state among 39,4 % (26/66) of students, bad health state among 12,1 % (8/66) of students, and good health state among 6,1 % (4/66) of students (pic. 1). So, most students examined (54,5 %; 36/66) have unsatisfactory and bad health state.



Pic. 1. Distribution of findings about the students' health state according to their self-assessment (%)

After that the relation between heredity indicators and self-assessment of health among the students surveyed was investigated. As the mentioned indicators are qualitative, the correlation of distribution of findings about the students' health state to distribution of the answers given to each question of the questionnaire using χ^2 Pearson criterion was examined. The results of this work are given in the table 2. From the results we can make a conclusion that in two cases current state of health of the students depended greatly on genetic relatives having been diagnosed hypertension (χ^2=18,48, p=0,02991) and respiratory diseases (χ^2=25,53, p=0,00242).

Table 2

The value of χ^2 Pearson criterion when assessing the correlation of distribution of findings about the students' health state to distribution of the answers given to the questions about genetic relatives having been diagnosed diseases or pathological conditions

Genetic relatives having been diagnosed	χ^2 criterion value
Hypertension	**18,48, p=0,02991**
Myocardial infarction	10,30, p=0,32651
Cerebral stroke	4,904, p=0,84259
Rheumatism	9,33, p=0,40699
Malignant states (cancer)	14,69, p=0,09959
Allergic reactions and/or bronchial asthma	14,00, p=0,12216
Respiratory diseases	**25,53, p=0,00242**
Peptic ulcer	13,31, p=0,14875
Digestive tract diseases	14,27, p=0,11273
Kidney and urinary tract diseases	5,549, p=0,78398
Diabetes	11,01, p=0,27459
Congenital diseases and disorders	13,34, p=0,14749

The results we have received demonstrate general tendency of health deterioration among youth having been paid attention to at state level in recent years [4, 13, 22]. Our findings correlate with the data demonstrating occurrence of digestive tract problems and respiratory diseases among HEI students [1, 2, 19]. According to other authors' data, among students haematogenetic organ diseases also occur [11], but it has not been recorded in our research. We have been the first to show the correlation of current students' health state to genetic relatives having been diagnosed hypertension and respiratory diseases.

Conclusions

Heredity state among the university students is characterized with closest relatives having been diagnosed hypertension – 45,5 % (30/66), allergic reactions and/or bronchial asthma – 27,3 % (18/66), and digestive tract diseases – 27,3 % (18/66) of cases, and with distant relatives having been diagnosed malignant states (cancer) and allergic reactions, and/or bronchial asthma – 10,6 % (7/66) of cases for both indicators. According to the students' self-assessment, among most of them (54,5 %; 36/66) poor or ill health states were revealed. Current health state of those surveyed substantially depended on closest relatives having been diagnosed hypertension (χ^2=18,48, p=0,02991), and respiratory diseases (χ^2=25,53, p=0,00242). The established facts need to be taken into consideration in planning of recreation activities for students during their studying at university.

Conflict of interests

The authors claim no conflict of interests.

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