



DEVELOPMENT AND EVALUATION OF HEALTH PROFILE OF STUDENTS

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ABSTRACT

The aim of this research is to apply the hopeful and express method for evaluation of nutrition, the degree of "contamination" of the organism, immunity, psycho-emotional stress and adaptive capacities of the cardiovascular system to dosed physical load. **Methods** of study include: inquiry, index of Ryufie, mathematical-statistical and graphical analysis.

The received results of the research make it possible to assess the physical training of students as well and the nutrition as unhealthy.

Key words: students, inquiry, express method, individual approach.

The most important indicator for the physical improvement of men is his health. Health is a state of optimal adjustment of the organism to specific environmental conditions, in which respect the free operation functioning of all vital systems in the human body.

Health is defined as the process of preservation and development of biological and social functions in humans, of optimal difficulty and social activity for a maximum duration of human life (1). According to WHO, the health of an organism is associated with a state of complete physical, mental and social well-being and not the absence of disease or pain (6).

Although in modern times physical activity as a basic component of a healthy lifestyle, increasingly becoming a criterion for functioning and development of creative forces and abilities of man, role of physical culture as a social phenomenon, as a compulsory part of the general culture, of education, of personal prosperity and environmentally friendly lifestyle is underestimated. The lack of established habits and motivation for physical exercises and sports from an early age in school reflected in the more mature (3).

Student age is a period characterizes with immobilization of the body, with increased neuro-psychological and emotional stress. The educational work of students becomes more intensive and stressful. There is an increase in the number of diseases (2).

When we address the special problems of physical education, we must focus on the effects of the reorganization effects on the human organism. The selection of means for physical education and regulation of physical activity should be done in accordance with the principles of the recovery activity, so one of the conditions of research in physical culture and sport is the continuous control on the health of athletes by the teacher (1).

The aim of the research is to develop and evaluate the profile of the health of students.

The tasks of the research are:

1. To analyze the basic theoretical issues related to the study;
2. To conduct research;
3. To analyze the results.

The topic of the research is the individual indexes of students from the Trakia University, which characterize the current state of health.

The object of the research is 74 students – men from three different faculties: representatives in the study are the students of Faculty of Economics with subjects: "Agrarian Economics", "Business Economics" and "Regional Economics". Agrarian Faculty participated with students in "Agricultural Engineering", "Agronomy", "Ecology", "Zooengineering" and "Fish-farming and aquaculture". Veterinary – Medicine Faculty contributed with students from first and second course, included in compulsory physical

education and sport from the Trakia University, Stara Zagora.

SURVEY METHODOLOGY

To achieve the aim of the study, to solve the tasks, we use the following methods:

1. Theoretical analysis – a summary of the general and specialized sports literature;
2. Investigation method of the health profile of students – emotional well-being, psycho-emotional tension, immunity of the organism, contamination of body and proper nutrition (4, 5).
3. Graphical analysis;
4. Index of Ryufie - functional text;
5. Mathematical and statistical methods.

Research to develop and assess the profile of health students are held during the academic year 2013/2014.

In present study were applied five investigations to establish the profile of the health of students (4, 5).

1. Investigation for evaluation of proper nutrition – Investigation is filled with a circle encloses the figure in column 'points', corresponding to the correct answer (Table 1). The purpose of the survey is to demonstrate proper nutrition for students. The points required for a positive assessment are 50 and up. (**Table 1**)

Table 1. Assessment of proper nutrition

<i>Question</i>	<i>Points</i>
1. Do you eat eggs? A) under 3 eggs per week; B) from 3 up to 8; C) more than 8 eggs.	7 3 0
2. Do you cut the meat greasy? A) always or often; B) sometimes; C) rarely or never.	7 3 0
3. Do you eat chicken with skin ? A) always or often; B) sometimes; C) rarely or never.	0 3 7
4. Do you remove the fat from the surface of soups? A) always or often; B) sometimes; C) rarely or never.	7 3 0
5. Do you baked dishes and how often you eat them? A) always or often; B) sometimes; C) rarely or never.	0 3 7
6. Do you like cakes, sweets and how often do you eat them? A) always or often; B) sometimes; C) rarely or never.	0 3 7
7. Do you like fruits and vegetables and how often do you eat them? A) always or often; B) sometimes; C) rarely or never.	7 3 0
8. Do you take vitamins? A) always or often; B) sometimes; C) rarely or never.	7 3 0
9. Do you consume whole grains? A) always or often; B) sometimes; C) rarely or never.	7 3 0
10. Do you add salt in food? A) always or often; B) sometimes; C) rarely or never.	0 3 7

Evaluation of the degree of contamination of the body – surveyed students indicated a

symptom (**Table 2**) and the points are summed.

Assessment of the extent of contamination is directly related to the evaluation of proper nutrition in students. After the calculation of the collected points (Table. 1), about proper nutrition, if the amount is less than 50 points and there are one or more symptoms of

contamination in (Table 2), from the evaluation of contamination are removed 10 points.

As the result is close to 100, so the contamination of the body is smaller.

Table 2. Degree of contamination of the organism

Do you observe the following symptoms	Points
Weakness	-5
Indolence	-5
Sweating	-5
Headaches	-5
Strong hair loss	-5
Often the condition of constipation	-5

3. Evaluation of immunity – This part of the survey is based on questions about the illness and how the illness is taking to students. The

evaluation is performed by subtracting 100 from the result of information gathered in the column "Points" of (Table 3).

Table 3. Assessment of immunity

Morbidity	Points
How many times during the year have you had viral infections? A) even once; B) one time; C) 2-3 times; D) 4-5 times; E) more than 5 times.	0 -10 -25 -40 -60
The infection lasts long	-10
The infection progresses into bronchitis or pneumonia	-15
Do you have allergies?	-15

4. Evaluation of the extent of psycho-emotional tension – in this part of the survey the numerical value of positive feedback from the column "Points" is collected (Table 4).

If the total points of all responses is close to 100, the student is under constant emotional stress. Positive answers to the first 7 questions show that there is a painful tension of haste. If more negative responses, the respondent was in a stable psychoemotional condition.

Table 4. Evaluation of psycho-emotional tension

Situation	Points
1. Your usual gait is fast	+10
2. You have a busy life and come home very tired	+10
3. Drive very fast your car, often go yellow traffic light. You are eager to other drivers	+10
4. Rarely find time for emotional support of your family and friends	+10
5. Rarely rest	+10
6. Have many outstanding cases and obligations	+10
7. Anxiety or guilt when you do nothing	+10
8. Difficulty sleeping	+10
9. Often wake up at night	+10
10. When you observe yourself, you have "a morning insomnia"	+10

5. Evaluation of the level of emotional well-being (Table 5) - in this part of the survey the numerical values of positive feedback from the

column "Points" is subtracted from 100. As the resulting sum is closer to 100 points, so the emotional well-being is better.

Table 5. Evaluation of the level of emotional well-being

<i>Assumption</i>	<i>Points</i>
1. There is nothing that saddens me; Sometimes I am sad; I am sad constantly; I am very unhappy and I can not handle it.	0 -5 -10 -15
2. I have no fear of the future; I feel fear of the future; I do not see anything good in the future; I know that the future is scary and nothing can change.	0 -5 -10 -15
3. No "white spots" in memory; I have more common "white spots" in the memory of others; In the past I had many "white spots" in memory; I feel a complete loser.	0 -5 -10 -15
4. Usually not annoy;; Sometimes slightly annoyed; I can be very irritated for a certain time; Permanent feel annoyed.	0 -5 -10 -15
5. I do not think I look any worse than usual; Bothers me that I look older than her age and unattractive; It seems to me that constantly change for the worse; I am sure I look terrible.	0 -5 -10 -15
6. When the new vacuum cleaner opens defect. In this I feel: Slight irritation; More severe irritation; Boredom; Some bitterness; Strong malice.	0 -1 -2 -3 -4
7. They made me remark, but actions of others go unnoticed. In this I feel: Slight irritation; More severe irritation; Boredom; Some bitterness; Strong malice.	0 -1 -2 -3 -4
8. I try to focus, and next to me a man constantly shake his leg. In this I feel: Slight irritation; More severe irritation; Boredom; Some bitterness; Strong malice.	0 -1 -2 -3 -4
9. I provided the familiar jewel, and they still did not return. In this I feel: Slight irritation; More severe irritation; Boredom; Some bitterness; Strong malice	0 -1 -2 -3 -4
10. In a dispute encounter many incompetent interlocutor. In this I feel: Slight irritation; More severe irritation; Boredom; Some bitterness; Strong malice.	0 -1 -2 -3 -4
11. Coin-op phone "takes" my last coin, and I have very important call. In this I feel: Slight irritation; More severe irritation; Boredom; Some bitterness; Strong malice.	0 -1 -2 -3 -4

Another important index to estimate the functional parameters of the body is the index of Ryufie by which establishes the adaptation of the cardiovascular system to a small physical activity (6).

The essence of the test is this - first of each participant was measured the pulse rate at rest (PR1). Later executed 20 deep squats with hands stretched forward for 30 seconds. Record the pulse rate after the first 10 seconds

of rest (PR2) and the last 10 seconds (PR3) of the first minute of the break.

Ryufie Index (IR) is calculated as follows:

$$IR = \frac{6x(PR_1+PR_2+PR_3)- 200}{10}$$

The results of the individual tests are compared with the results in the "Norma in IR", presented in (Table 6) to determine the evaluation of the adaptation of the cardiovascular system.

Table 6. Evaluation of CVS in index of Ryufie

Rating adaptation of CVS	Norma on IR
Excellent	Less than or equal to 0.1 to 5
Good	5,1-10
Satisfactory	10,1-15
Unsatisfactory	15.1 to 20 and over 20

ANALYSIS OF RESULTS

Upon completion of the study was developed health profile for each participant in the experiment. It establishes the possibility to identify weaknesses and develop an individual program.

The overall results of all students who participated the study are presented in Figure 1. and Figure 2.

The analysis of the survey results is a consequence of inquiries made by students in five different criteria: assessment of proper nutrition, the degree of contamination of the body, immunity, level of psycho-emotional stress, the level of emotional well-being and adaptation capabilities of the cardiovascular system to dosed physical activity by index of Ryufie.

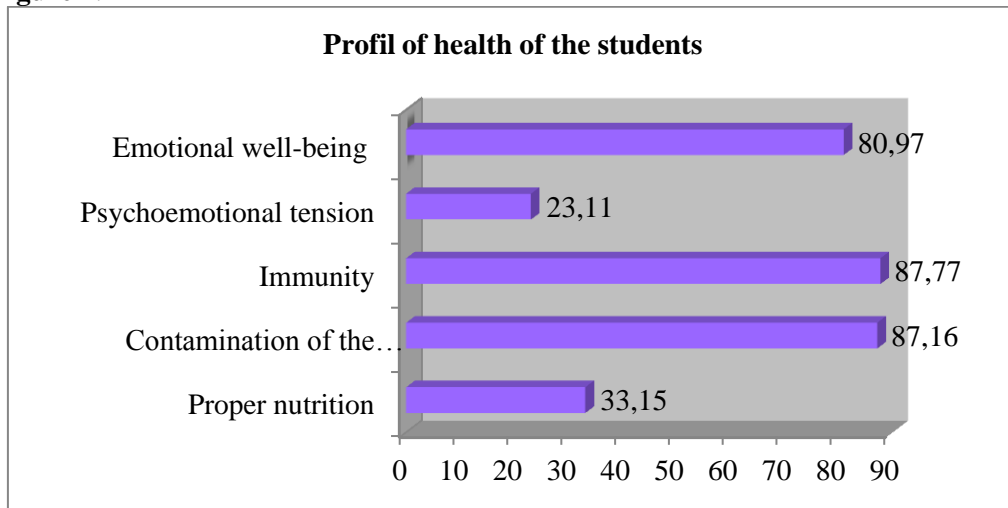


Figure 1. Profile of health of the research contingent

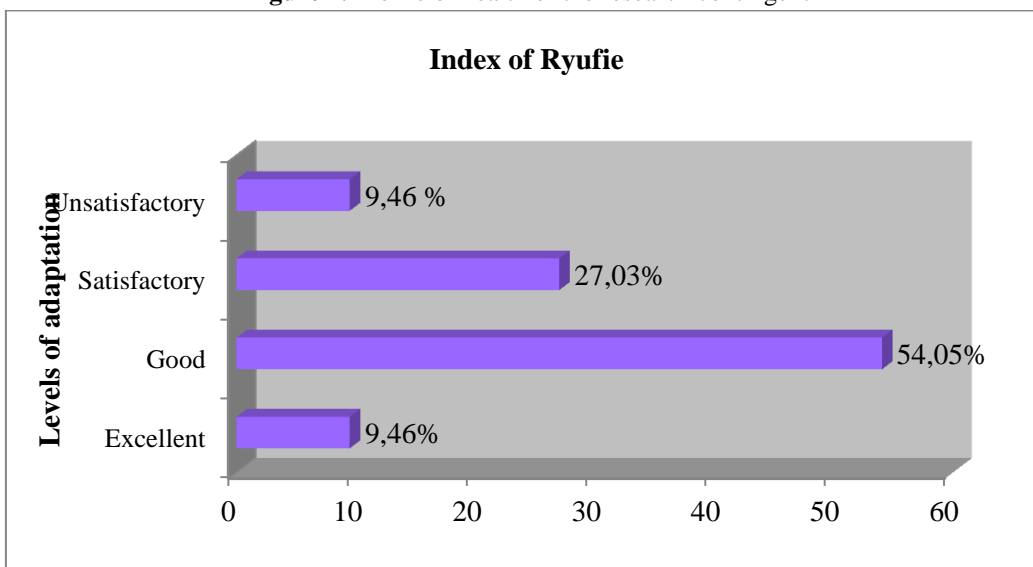


Figure 2. Index of Ryufie

The link between proper nutrition and contamination of the body is explicit, but there are other factors of everyday life of the student, which is affecting his or her health. The average assessment for proper nutrition is 33.15 points, which shows us poorer eating habits of 94.5% of the respondents. Despite the high percentage of students with poor diet are reported low levels of contamination in the body with an average of 87.1 points. This fact is based on the sustainability of the young organism to harmful habits and adverse conditions of his or her environment. They seldom complain of symptoms such as weakness, lethargy, sweating, headaches, hair loss and often strong state of constipation. We assume that this is confirmed in a certain degree of assessment of immunity - 87.7 points. Students inform us for a minimum number of diseases from viral infections, bronchitis, pneumonia, allergies, and the short duration of the ongoing infections.

The average value for the assessment of psycho-emotional tension of the respondents is 23.1 points, which means a stable emotional state, control of tension and the absence of painful tension rush.

The assessment of the indicator for the emotional well-being is carried out depending on the closeness of the result to 100. As it is closer, as it is better. After analyzing the results of the inquiry, the students showed an average of 80.9 points, which gives us reason to believe that indicate a high level of emotional well-being and rarely experience irritation, fear, intense anger, a resentment, boredom, reduce memory, uncertainty regarding appearance and more.

By index of Ryufie is established adaptation of the cardiovascular system to dosed physical exercises. It is evident that in 54.05% of the students there are good levels of adaptation, but for better results are needed purposeful sports exercises. Excellent fitness of the cardiovascular system show - 9.46% (7 people) and satisfactory results - 27.03% of the respondents. The remaining 9.46% of the respondents the results showed unsatisfactory levels of adaptation during exercise, which raises the need for specialized medical opinion.

CONCLUSIONS AND RECOMMENDATIONS

1. Based on the analysis of the results for students – men, can draw the following conclusions:
2. The development of the health profile is an express method for assessing of the nutrition, the level of "contamination" of body, immunity, psycho-emotional tension

and stress adaptation capabilities of the cardiovascular system to dosed physical exercises.

3. By developing a profile of health can be successfully accomplished individual approach to correct the "weaknesses" as prepare a specific programme to improve them.
4. The results obtained in this study gives us reason to evaluate the nutrition as unhealthy, and the low level of contamination of the organism which is not a prerequisite for a decrease in immunity, stable emotional state and a high level of emotional well-being.
5. There are good levels of adaptation of the cardiovascular system to dosed physical exercises.
6. The profile of health in students affected by many factors, which are interrelated with each other.

The recommendations which can be made, are the following:

1. To seek healthy alternative nutrition as consumed more fruits and vegetables.
2. To seek a balanced ratio in the food of the main macronutrients - carbohydrates, proteins and fats.
3. To increase health education of students through lectures, seminars, internet and sports literature.
4. To reduce the degree of psycho-emotional stress and to maintain fitness through physical exercises of different nature to improve the indicators of physical development and functional preparedness of the organism.

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