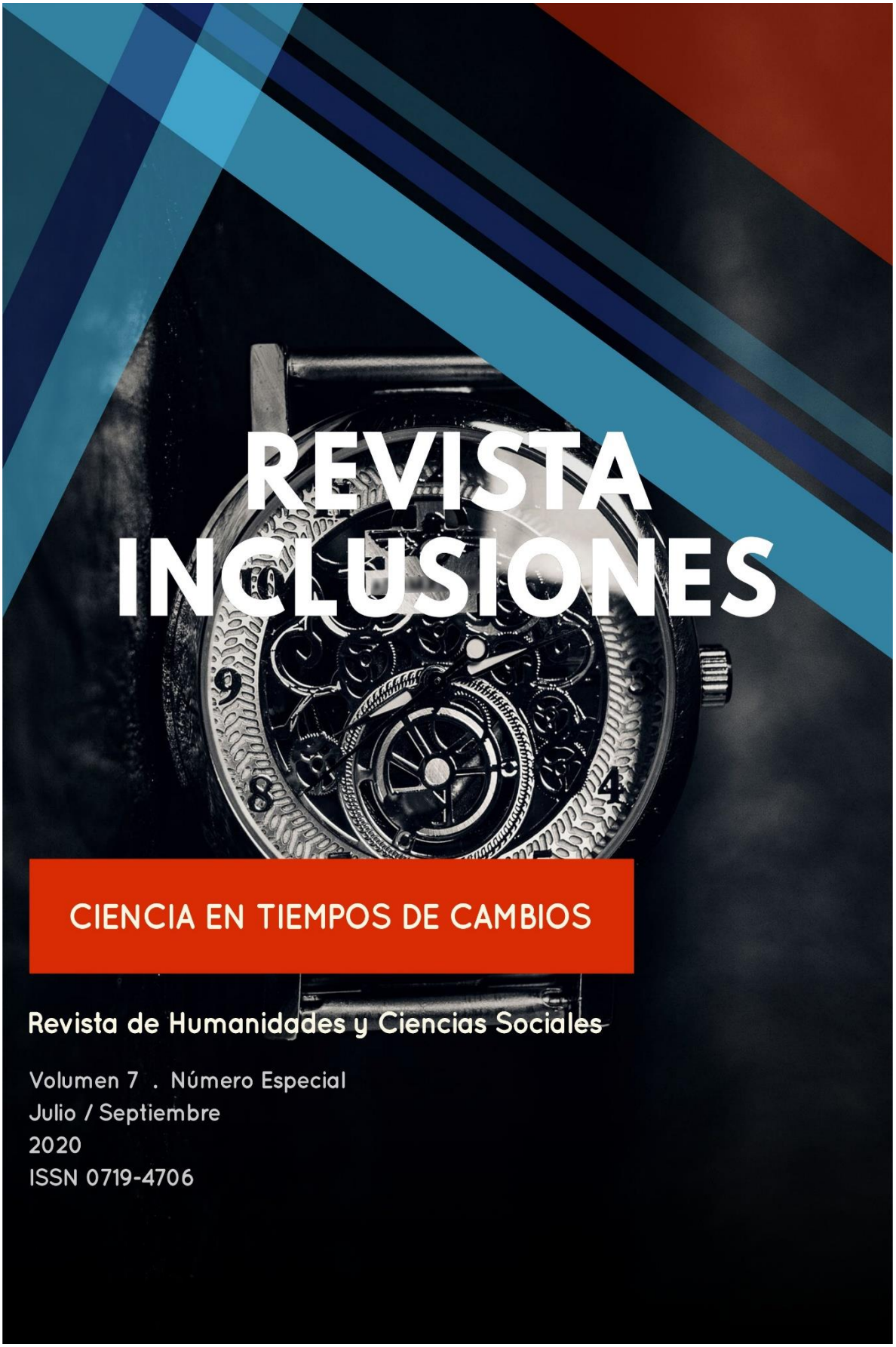

REVISTA INCLUSIONES

CIENCIA EN TIEMPOS DE CAMBIOS

Revista de Humanidades y Ciencias Sociales

Volumen 7 . Número Especial
Julio / Septiembre
2020
ISSN 0719-4706

REVISTA
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CUADERNOS DE SOFÍA
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REVISTA INCLUSIONES
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Indización, Repositorios y Bases de Datos Académicas

Revista Inclusiones, se encuentra indizada en:

REVISTA INCLUSIONES
REVISTA DE HUMANIDADES Y CIENCIAS SOCIALES

CUADERNOS DE SOFÍA EDITORIAL

ISSN 0719-4706 - Volumen 7 / Número Especial / Julio – Septiembre 2020 pp. 335-341

HEALTHY WALKING AS A MEANS OF INCREASING PHYSICAL ACTIVITY AMONG STUDENTS OF THE SPECIAL MEDICAL GROUP

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Fecha de Recepción: 11 de abril de 2020 – **Fecha Revisión**: 27 de abril de 2020

Fecha de Aceptación: 27 de junio de 2020 – **Fecha de Publicación**: 01 de julio de 2020

Abstract

The urgency of the problem under investigation is conditioned by the need to strengthen and preserve student youth's health. This is one of the main tasks facing the Ufa State Petrolium Technical University (USPTU) today. The purpose of the article is to develop, theoretically substantiate and introduce into the learning process various forms of healthy walking aimed at implementing effective methods of disease prevention. Healthy walking forms described in the article allow improving physical state, identifying physical and functional conditions, psycho-emotional state. The students from the special medical group (SMG) were divided into two groups – experimental and control. The first group was characterized by more significant growth in functional state indicators than the second one, to which were applied those physical education facilities that are provided for by the physical education program for higher education institutions. This indicates the effectiveness of the applied forms of healthy walking. The materials of the article can be useful for PE instructors working in educational institutions.

Keywords

Health — Healthy walking — Health path — Musculoskeletal system — Cardiovascular system

Para Citar este Artículo:

Nasibullina, Dinara, M.; Nasibullin, Timur R. y Greb, Andrey V. Healthy walking as a means of increasing physical activity among students of the special medical group. Revista Inclusiones Vol: 7 num Especial (2020): 335-341.

Introduction

In modern society, there is an opinion that everyone should mind his own health. Many people tend to believe that the state of health is determined by circumstances regardless of their will.

Contrary to this opinion, human health should not be considered as something personal. From the point of view of sociology, each person is an inalienable link of human society, and, therefore, his health state is no longer his personal problem, but social and public. Public health is the matter of society itself.

It should quickly take effective measures for its preservation, strengthening and recondition. After all, human health is only to some extent dependent on heredity. Much more it depends on external factors that are of a social nature. It is these factors that over the years make a person born completely healthy the possessor of a number of diseases.

The conditions of modern civilized life define a sharp decrease in the necessary physical activity, which is directly related to the negative consequences that affects the normal development of the individual, his physical and mental abilities; leads to a sharp decline in functionality; distress development; adversely affect demographics and exacerbate the problem of genetic pool.

This is due not only to the recent economical and environmental changes, the changes in the working and living conditions of the Russian people, but also to the underestimation of the health and educational role of physical education in the society that was reflected in the deficit in the harmonious development of the individual.

Students' health preservation and strengthening is one of the main tasks facing the Ufa State Petroleum Technical University (USPTU) today. The solution of this problem requires the development and implementation of health saving technologies aimed at applying effective methods for disease prevention and students rehabilitation through physical education.

At the beginning of the academic year, all first, second and third year students, depending on the health status, are divided into four groups based on the results of the physical examination: full load, reduced load, special and therapeutic physical training groups. This ensures more organized approach to the physical culture at the university. The classes in these training groups differ by curricula, volume and structure of physical activity.

The study of the first-year students' health, which considered such an indicator as health state, revealed that the full load group accounted for 27%, reduced load – 15%, special – 50% and therapeutic physical training – 8%. Figure 1 presents the results of the health study conducted in the group of 2014-2015 first-year students (autumn term).

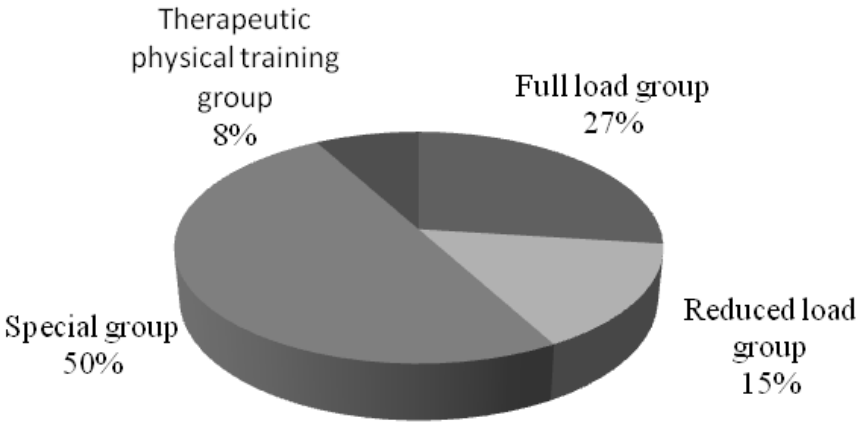

Figure 1
2014-2015 first-year students

The range of diseases is quite wide. The most common are cardiovascular and respiratory ones, as well as musculoskeletal disorders (MSD).

While at school, students with MSD were often exempted from PE classes, despite the fact that they needed more corrective physical exercises. In this regard, MSD occupy a special place among diseases identified especially among USPTU first-year students, since 75% of the students attending PE classes for SMG at the university suffer from postural disorder and scoliosis of different degrees. In turn, spine deformation leads to various internal organs disorders. Therefore, one of the main tasks for these students in PE classes is the correction of posture.

The share of first-year students with cardiovascular diseases, classified in the special medical group (SMG) was 27%. Cardiovascular diseases at college age are caused by inactivity, inappropriate nutrition, bad habits (smoking, drinking alcohol), stressful situations and emotional overload.

30% of USPTU SMG first-year students were detected chronic respiratory diseases. The work with these categories of students requires the development of innovative approaches, tools and methods, forms of physical culture.

The purpose of the research is theoretical substantiation and introduction of various forms of healthy walking as a means of increasing physical activity among the students of special medical group in educational process. Over the past decades, there has been an alarming trend in the deterioration of young people's health and students' physical fitness. To date, the health of the nation raises fears due to an increase in the number of students who take drugs, alcohol, smoke, as well as due to low mobility of young people, etc. In this regard, in the health and physical education system face the relevant and important problem of student health support. This research allows adjusting educational process and methodology for physical education classes for SMG students.

Materials and Methods

At the beginning of the academic year, the SMG students was conditionally divided into control group (CG) and experimental (EG) group. CG included the students of

technological department (TD) in the number of 78 people (boys), EG – the students of mining and oil department (GFR) in the number of 78 people (boys).

At the beginning of the pedagogical experiment, the following tasks of PE classes for SMG students were defined:

1) health promotion and enhancement of body defenses;
2) development of physical skills and qualities;
3) improvement of physical development and physical preparation indicators;
4) gradual adaptation to physical load and self-control trainings;
5) expansion of the range of physiological systems capabilities;
6) formation of volitional powers and increasing interest in regular physical training;
7) mastering of exercises favorably influencing the organism of the student taking into account his or her diseases.

The CG classes were conducted upon the program of the discipline “Physical Education” in accordance with the requirements of the state educational standard of higher professional education. In the physical education classes for EG were used such forms of healthy walking as:

1. Speed walking, used mainly in the form of ordinal (marching) exercises and therapeutic gymnastics (formations and reformations, movements, formation dispersal and coil-up, attention exercises);
2. Corrective walking aimed at disorders elimination, training and improvement of the proper walking technique (the following types of walking – on toes, on heels, on lateral and tibial foot borders, by crouch, in squat, cross-step, with high hip lift, with back shank motion, etc.);
3. Healthy walking on a flat road, in the gym or outdoors, i. e. around a sports field; ranging by distance (up to 3000 meters), time to complete the course, pace, rhythm of advance, number of intervals for rest and their duration;
4. Healthy walking along the trail with a lift (health path), held in the picturesque park area next to the university on a steep bank of the river Belaya (Pobeda park). The trainings are conducted on the existing tracks of the park with different ascent angles due to the specific terrain. The health path is metered according to the same principle as the track, but it also varies by climb angle, which has 4 difficulty levels (5, 10, 15 and 20 degrees).

All the forms of healthy walking are aimed at restoring support ability and gait mechanism, improving joints mobility and strengthening lower limbs muscles, forming compensation, activating the autonomic functions and restoring adaptation to loads of varying intensity. The alternation of tension and relaxation during walking creates favorable conditions for the work of the circulatory, respiratory and nervous systems.

The functional state of the SMG students was assessed by the following indicators: body mass index (to determine physical development level), Cooper's 12-minute test (to determine physical performance), the Stange-Hench test (to verify whether blood circulation (in heart, cardiovascular system) is adequate).

In the course of the study, the students of the experimental group showed increasing performance ($p<0.05$) in all the parameters under investigation. The differences between the groups were proved credible during statistical processing of the results obtained (Table 1).

The initial values of the body mass index (BMI) of the subjects surveyed are below the normative indices from 17.8 to 18.6 kg/m2. As a result of the study, the control group showed an unreliable increase in body weight. The index of young men was 28.6 kg/m2 meaning 10.3% increase, which indicates the overweight of the subjects. During the study period, the BMI of the experimental group remained within normal limits. The young men's BMI was 22.4 kg/m2, 3.8% increase. The young men from EG tended to improve their breath holding indices from 72 ± 4 to 84±6 s (p>0.05). At the end of the study the duration of the Stange-Hench test among the boys from CG was 67 ± 7 to 74 ± 4 s (p <0.05). Thus, the young men showed tendency to improve the functional state of their respiratory system. The young men didn't show statistically significant increase in their respiratory system training level that should be explained by the weak specific volume of the exercises appropriate for the training exercises. Both the young men from EG and from CG showed the endurance increase from 7 ± 4 to 14 ± 6, and from 7 ± 3 to 14 ± 2 respectively that was statistically confirmed (p < 0,05). It testified to a sufficiently high attention paid to endurance training, both by the students from EG and by the students from CG.

Figure 2 shows that in the autumn semester of 2015-2016 academic year, the number of students in SMG decreased due to the improvement of their functional state.

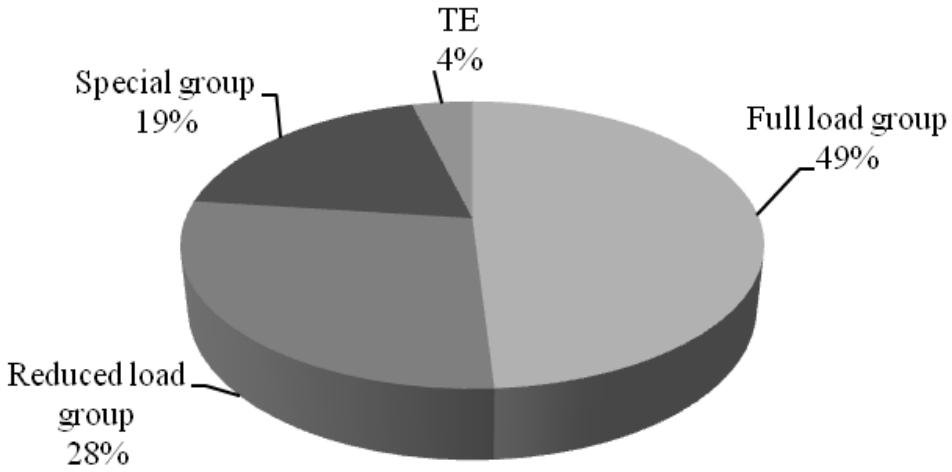

Figure 2
2015-2016 second-year students

No.	Indicators	Control group			Experimental group		
		before the study	after the study	differences surplus and authenticity	before the study	after the study	differences surplus and authenticity
1	Body mass index (kg/m2)	18.3	28.6	10.3%	18.6	22.4	3.8%
2	Endurance development trend	7 ± 3	14 ± 2	(p <0 , 05)	7 ± 4	14 ± 6	(p < 0.05)
3	The Stange-Hench Test	67 ± 7	74 ± 4	(p < 0.05)	72 ± 4	84 ± 6	(p > 0.05)

Table 1
Dynamics of the students' functional state indicators

Conclusion

The analysis of the study results showed that all the indicators studied, both in the control group and in the experimental group, are not characterized by significant differences among the first-year students at the beginning of the academic year that indicates the homogeneity of the groups compared and the possibility of further experimentation.

The results of the study convince that in the experimental group, in which the program of therapeutic walking was used, the indicators increase is more significant than in the control group, where the means of physical education provided for by the physical education program for higher education institutions were applied.
In the course of the study, it was revealed that the healthy walking program allows the SMG students to improve their physical state, physical and functional preparedness, psychoemotional state, and also has a health-improving effect associated with increasing the students' physical efficiency.
Thus, the tasks posed in the study are solved. Systematic trainings and especially healthy walking helps to stay young, preserve health, promote longevity, which is accompanied by creative and labor enthusiasm. In process of training, young people should constantly learn how to follow a healthy way of life.

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