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## Social and Pedagogical Rehabilitation of Female Students with Disabilities

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*A model of social and pedagogical rehabilitation of female students with disabilities in the educational space of higher education is suggested. Experimental data obtained in a long-term experiment on the first-year female student living in the Siberian region served as a ground for the creation of the model. Within a framework of the "Health and Education" program female students of different universities in Krasnoyarsk were examined in the "VALEO" interuniversity health and wellness center. Comparative analysis showed that the female students of the basic medical group have higher rates of physical development and morphofunctional parameters compared to their peers who have disabilities, and in particular, musculoskeletal disorders.*

*The model helped to develop methodological and organizational bases for the complex solution of issues of social and pedagogical rehabilitation and providing targeted support and assistance at the individual level. Motivation of female students to improve health by means of physical culture and adaptive sports, active participation in various activities of the university (Club of the Funny and Inventive, Valeada, different intellectual competitions, judging competitions, etc.) contribute to their social status. The data based on the model of interaction of the interuniversity health and wellness center with chairs of physical culture and valeology, as well as social services of universities and medical personnel can generate a higher level of social and pedagogical rehabilitation of female students with disabilities in terms of an institution of higher education, which promotes the creation of a socially adapted educational environment. The effectiveness of this approach is justified by the example of one of the universities in the city.*

*Keywords: social and pedagogical rehabilitation, female students, model, disabilities, automated monitoring, physical condition.*

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### Introduction

In the last twenty years there was a deterioration of young people's health.

An increase in the incidence of students is noted by many authors studying health of the student population (Apanasenko, 2003; Bondin,

1999; Kuraev, 2003; Moskovchenko, 1999 – 2008, Prokhodovskaya, 2001; Temnykh, 2006, etc.). Statistics show that the state of health of students is characterized by: an increase in somatic diseases, mental health disorders, a decline in physical development, a growth of the level of disability.

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Studying the ten-year dynamics of incidence of the first-year students in Krasnoyarsk O.N. Moskovchenko (1999, 2000) notes that within a 10-year period the cardiovascular system diseases have increased by 40 %, and respiratory diseases – by 32 %. Diseases of the musculoskeletal system, the central nervous system and the gastrointestinal tract have increased by 30 % and other diseases by 50 %. The specified incidence rate is followed by an increase in weight or underweight to 20 kg. Each year 20-30 % of students have comorbidities.

The increase in the incidence of students can be attributed to the high information overload; intensive use of electronic and computer technology; harmful habits; hypodynamia; low level of health culture development, lack of motivation in maintaining and promoting health. Most of the youth have no idea of their organisms' individual physical and psycho-physiological possibilities, is not engaged in physical activity as a means of improving health, maintaining high workability and disease prevention.

Thus, according to the generic data from different researchers, we can say that only 10 % of high school graduates – first-year students could be considered healthy. From 45 to 50 % of students have morphofunctional abnormalities in physical development and a weak physical fitness. Every second first-year student has combined chronic diseases. A comparative analysis of the incidence according to the disease classes (ICD10) in the structure of incidence reveals the predominance of the musculoskeletal system, nervous system and digestive system. Unfortunately, lifestyles of students, including the nature and conditions of their labor activities, greatly contribute to the development of these three classes of diseases.

Scientists from different countries, in particular, Switzerland, Germany, Great Britain and Czechoslovakia (Wutscherk, 1988; Wotf,

1989; Zeldow, 1988) are concerned with a question of the students' health condition. To study the health of students in these countries a universal SF-36 form designed to determine the health according to a number of parameters is applied. Assessment of students' health is carried out on an 8-point scale.

One of the socially important problems of is the students' disability. According to statistics, 300 thousand out of 9 million disabled people are students (Kuraev, 2003). The category of these people is extremely diverse in nosology, which was the basis for the introduction of adaptive physical education. In connection with the increasing disability of the population the Interagency Disability Educational Standards of the State Committee for Higher Education of Russia of June 13, 1996 opened and included in the Classification of fields and specialities of higher education a new speciality 022500 – “Physical education for people with disabilities (Adaptive physical education)”.

In 1952, the American Alliance of Health, Physical Education and Recreation (AAHPER) identified adaptive physical education in special schools as a compulsory specialized field – adaptive physical activity for persons with disabilities (Gudrun, 1996).

The unity of the structural elements of adaptive physical education (APE) is determined, above all, by the use of physical exercise as a primary means and a method of achieving the goal in the structure of pedagogical rehabilitation (Evseev, Shapkova, 1996, 2000). A legal space of adaptive physical education was also defined. In the 80-90s Russia took part in the drafting and signing a number of international documents, and in 1995 the “Federal Law on Social Protection of Disabled Persons in the Russian Federation” was passed.

According to several authors (Apanasenko 2003; Grinina, 1995; Evseev, 1996; Koltoshova,

2005; Kosolapov, 2002, etc.) the studies in different regions of the country showed that the adaptive adjustment of students, former school children, to new social conditions at the beginning causes an active mobilization, but then the depletion of physical reserves of an organism happens.

Once enrolled in a university, the student is in the new social conditions, and often in a new climatic environment. Adaptation to a complex of new factors that are specific to higher education is a difficult multi-level social and psycho-physiological process that is accompanied by a significant strain of compensatory-adaptive systems of the students' organisms.

T.A. Katsina (2002) believes that the experience of the institutions of the Krasnoyarsk Territory aimed at the rehabilitation of disabled children by means of physical education and sports is still quite little, but it definitely has a positive value. It contributes to the fact that in the process of systematic physical exercise and sports activities available to disabled children the overall non-specific tolerance of organism increases, and participation in sports improves their psycho-emotional comfort and increases social status.

A student with disabilities engaging in physical education and adaptive sports gets an opportunity to self-realization, self-improvement and self-assertion, which contributes to activation of all body systems, sensorimotor correction and development of a number of necessary motor skills, which in turn is an essential factor of social rehabilitation of the disabled.

The main objective of the social and pedagogical rehabilitation of young people with disabilities is to create equal conditions with other group members to participate in social, cultural, physical and sports life through the social care and support. This provision is the basis for our research.

### **Materials and methods of the study**

The first-year female students aged 16-18 from different universities in Krasnoyarsk took part in the long-term experiment on the basis of the "Valeo" interuniversity health and wellness center. According to the generalized results the experiment involved altogether 315 female students of the basic medical group (BMG), 292 female students with a variety of somatic diseases of the special medical group (SMG – I) and 48 female students with scoliotic diseases of different degrees, which were correlated into groups as follows. Students with postural disorder and first-degree flat-footedness made the SMG – II group (18 people). Students with the first and second-degree scoliosis made the SMG-III group (16 people), students with the second and third-degree scoliosis formed the MD group– musculoskeletal disorders (14 people).

In the course of the experiment in order to obtain information about the level of physical development the anthropometric measurements of the students were carried out by means of conventional methods. We took into account the following indicators of physical development: body length, body weight, weight-height index, vital capacity of lungs (VCL), life index, timed inspiratory capacity, carpal dynamometry, power index, wrist circumference, flexibility. The evaluation criterion of O.N. Moskovchenko (1999) was used for each indicator. To obtain information about the level of the functional state of the cardiovascular system we took into account the indicators of blood pressure, heart rate at rest and at the load, the recovery time for the functional test and the calculated coefficients.

Assessing the level of physical condition was determined using the method of computer diagnosis. The basis of the method is the automated system "Health monitoring" (certificate of registration in the Sectoral Fund for Algorithms

and Programs, Ministry of Education of Russia. No. 1825, No. 50200200007 – Moscow, 2002).

All the experimental material was subjected to statistical analysis. With the exception of the arithmetic value ( $M$ ), we also took into account the square deviation ( $\sigma$ ) allowing to assess the degree of variation of the feature. All the values that lie in the range  $\pm 1\sigma$  are attributed to the limit of the average rate of the feature. In determining the level of physical development the following criteria were taken into account: high physical development from  $+2\sigma$  to  $+3\sigma$ ; above average – from  $+2\sigma + 1\sigma$ ; average – from  $+\sigma$  to  $-\sigma$ ; below average – from  $-1\sigma$  to  $-2\sigma$ ; low – from  $-2\sigma$  to  $-3\sigma$ .

### **Main results of the study**

Due to the trend of growth in the number of students who have health deviation and the increase of disability of students, the increased demands on the organization and methods of conducting classes of physical education are made. Rehabilitation of the first-year female students with disabilities acquires particular importance in the educational environment of the university, which today is highly problematic.

In order to solve the indicated problem, at the first stage we decided to examine the first-year female students of the basic medical group and students of special medical groups living in the Siberian region to assess the level of physical development and morphofunctional parameters describing the level of physical condition. The average values of the main features of physical development are presented in (Table 1).

Comparative analysis showed that the average physical development indicators (weight, vital capacity of lungs, chest and wrist circumference, carpal dynamometry), as well as indicators of timed inspiratory capacity and flexibility significantly differ between the

students of the basic medical group (BMG) and the special medical group (SMG-I), between the BMG and special medical groups (SMG-II, SMG-III) that include students with scoliosis of varying degrees. This difference is especially marked among female students of all the above groups and female students who have musculoskeletal disorders (MD). It should be noted that in the length of the body in girls of BMG, SMG-I and SMG-II no significant differences were observed, the oscillations are observed in the range 0.5-1cm. Significant differences are noticed in the range of 2 cm between BMG, SMG-III and MD. Body weight between group indicators ranges from 57.6 to 50 kg. Significant differences are reported in girls and handed OMG. Evaluation of skeleton massiveness according to the value of wrists circumference indicates that in the average index of the SMG-III and MD groups the girls with a narrow-bones body type prevail.

Group average rate in groups BMG, SMG-I and SMG-II indicates the predominance of the normal-bones body type, therewith between 15 and 20 % had the narrow-bones body type and 8-15 % – wide-bones body type, which is consistent with the data (Kharitonova, 2006).

Significant differences were observed in indicators of chest circumference, carpal dynamometry and index, lungs vital capacity and life index, which is easy to see in (Table 1). All these quantities have significant differences between the female students of BMG with special medical groups indicating marked deviations in the girls of the special medical groups from the age standards of physical development, which is conditioned by the somatic diseases and especially by the various disorders of the musculoskeletal system.

Comparative characteristics of indicators characterizing the functional state of the cardiovascular system of the first-year female students are presented in (Table 2).

Table 1. Comparative characteristics of physical development and the cardiovascular system of female students

Average indices of physical development (M ± σ)												
Groups	Height (cm)	Weight (kg)	WHI (relative units)	LVC (relative units)	LI (relative units)	Chest circumference	Wrist circumference	Dynamometry (kg)			Flexibility (cm)	Timed inspiratory capacity, c.
								Carpal				
								Right hand	Left hand	Carpal index		
BMG n = 315	166 ±5,4	57,6 ±2,8	3,80 ±0,4	3295 ±235	57,2 ±3,0	90,5 ±4,5	15,4 ±0,6	32,2 ±1,4	29,2 ±1,2	55,5 ±3,0	14,0 ±0,5	50,8 ±1,02
SMG-I n = 292	165,5 ±3,6	57,0 ±2,8	3,85 ±0,7	3250 ±210	57,0 ±3,0	87,8 ±3,9	14,4 ±0,4	29,2 ±1,2	27,2 ±0,9	50,8 ±2,6	12,5 ±0,3	42,0 ±0,56
SMG II n = 18	165 ±1,7	56,7 ±3,4	3,43 ±0,6	3097 ±158	55,2 ±2,7	86,6 ±3,5	14,6 ±0,6	28,8 ±0,9	25,8 ±1,7	51 ±5,6	10,6 ±0,7	40,8 ±0,52
SMG-III n = 16	164 ±1,7	63,2 ±3,9	3,85 ±0,4	2950 ±180	51,4 ±1,6	36,6 ±0,2	13,2 ±0,4	24,2 ±0,6	22,5 ±1,3	41,5 ±3,7	9,3 ±0,4	36,6 ±0,28
MD n = 14	164 ±0,8	50,0 ±0,6	3,0 ±0,2	2550 ±110	51,0 ±1,4	30,4 ±0,14	11,8 ±0,2	18,6 ±0,1	16,2 ±0,9	37,2 ±2,8	7,5 ±0,3	30,4 ±0,14

Note: Differences between groups significant at p < 0,05

Table 2. Comparative characteristics of indicators of the cardiovascular system of female students

Average indicators of the cardiovascular system (M ± σ)												
Groups	Blood pressure (mm of mercury)				Pulse (blows/min)			Recovery time (sec)	CEB, unit	MBV, ml.	IR, unit	ER, unit
	Systolic	Diastolic	Sphygmic	Average	At rest, blows/min.	When exercise						
						Unit	%					
BMG n = 315	115 ±3,8	70,0 ±2,3	45,4 ±1,8	95,0 ±4,7	76,0 ±4,2	108 ±5,6	29,6	98,6 ±4,53	3420 ±49	524 ±59,6	87,4 ±3,5	16,8 ±0,3
SMG--I n = 292	134,0 ±8,9	75,4 ±2,6	52,4 ±2,3	101 ±6,6	84,0 ±4,8	±135 ±9,8	37,8	125 ±24,3	4368 ±97	6131 ±74,8	112,5 ±8,7	16,1 ±0,2
SMG- II n = 18	146,9 ±9,6	80,4 ±4,3	66,5 ±2,8	103 ±12,	90 ±5,8	185 ±13,2	51,3	135 ±28,9	7236 ±107	6570 ±89,4	132,2 ±8,6	13,53 ±0,1
SMG-III n = 16	120,0 ±5,9	76,6 ±3,2	43,3 ±1,3	98,1 ±4,8	84 ±4,8	167,0 ±10,2	49,7	145,8 ±33,4	3637 ±85,7	5544 ±74,8	100,8 ±2,7	19,30 ±0,3
MD n = 14	118 ±3,4	75 ±2,6	43 ±1,2	96,5 ±4,6	96 ±4,2	195,3 ±8,7	50,7	150 ±43,9	3526 ±78,8	6240 ±98,6	96,8 ±1,8	19,0 ±0,2

Note: CEB – coefficient of efficiency of blood circulation is calculated by the formula (SBP-DBP), x heart rate, standard unit; MBV – minute blood volume is defined by a tabular matrix of A.I. Zavalov (1988); ER – endurance ratio calculated by the Kvas formula (ER = heart rate / Sphygmic x10).

The analysis (Table 2) shows that BMG students have the best indicators characterizing functional possibilities of the CVS and its adaptive capacity compared to SMG-I students who in turn are performing better indices than other special medical groups of students with the musculoskeletal system disorder. However, within the groups differences are characterized by heterochrony. So in the BMG the indices of SBP, DBP, Sphygmic BP are within the physiological norm for people at this age living in the Siberian region (Moskovchenko, 1999, 2006; Kharitonova, 2006).

At the same time, the heart rate response to the functional load (20 sit-ups) and recovery time indicates the average level. The index of Robinson that indirectly reflects the coronary blood flow by the rate pressure product is above average. The coefficients of CEB and ER indicate a reduced function of the cardiovascular system due to the inefficiency the blood circulatory system. This is especially marked in the SMG – III and MD group.

Each level of physical condition is characterized by a set of anthropometric and morphofunctional parameters pointing to the adaptive functions of the organism to environmental conditions and physical load. Previously, O.N. Moskovchenko (2008) determined a significant correlation dependence ( $r=0.95 - 0.88$  with  $p<0.01 - 0.02$ ) between

the level of physical condition (LPC) and the incidence of diseases among students. The higher the level of LPC, the lower the percentage of somatic diseases. Students with a low and below-average level are to be included to a special medical group. The comparative analysis of LPC in female students participating in this study is shown in (Table 3).

The high LPC is characterized by a satisfactory adaptation, a high level of regulatory systems, efficiency and exercise tolerance; excellent response of CVS to the functional load; high resistance of the immune system to cold-related diseases and stability of the organism to various environmental influences, harmonious physical development. Students with high LPC in the BMG made 1.8 %.

The above-average LPC is characterized by reduced adaptive abilities, low tension of regulation systems and reduced exercise tolerance, high working capacity, good or moderate response of CVS to the functional load; a fairly high resistance of the immune system to cold-related diseases. Among the examinees 30.2 % were students of BMG, 18.8 % – SMG-I, 0.72 % – SMG-II, 0.48 % – SMG-III, 0.28 % – MD out of the general cohort in each group.

The Average LPC is characterized by a reduced adaptation; a significant tension of regulation systems; disorder of heart rate; average tolerance to physical load and average level of

Table 3. Comparative analysis of the physical condition of the first-year female students

Groups	Number of examinees	Assessment of the level of physical condition, % ( $\pm m$ )				
		High	Above-average	Average	Below-average	Low
BMG	315	1,8 $\pm$ 0,8	30,2 $\pm$ 3,2	68,0 $\pm$ 4,2	-	-
SMG- I	292	-	18,8 $\pm$ 3,4	66,4 $\pm$ 3,9	19,2 $\pm$ 2,2	5,6 $\pm$ 1,6
SMG- II	18	-	0,72 $\pm$ 0,01	53,4 $\pm$ 3,8	30,08 $\pm$ 2,8	15,8 $\pm$ 0,8
SMG – III	16	-	0,48 $\pm$ 0,1	52,8 $\pm$ 4,0	28,92 $\pm$ 3,6	17,8 $\pm$ 1,4
MD	14	-	0,28 $\pm$ 0,02	54,8 $\pm$ 3,2	26,62 $\pm$ 2,4	18,3 $\pm$ 1,6

working capacity; reduced resistance of the immune system to cold-related diseases. Among the examinees 68.0 % were students of BMG, 56.4 % – SMG-I, 53.4 % – SMG-II, 52.8 % – SMG-III, 54.8 % – MD.

The low and very low LPC is characterized by the high and very high tension of regulation systems, reducing level of energy mechanisms, which leads to metabolic and structural changes of the body and limitation of its adaptive capacity. This is reflected in disorder of heart rate, which is showed by severe tachycardia or bradycardia, tolerance to physical load. Work efficiency is reduced, low immune system resistance to cold-related diseases, diseases of the cardiovascular system, respiratory system, metabolic disorders, which is a concomitant disease in students with scoliosis of varying degrees. Typically, female students with the below-average and low LPC have disharmonious physical development.

However, it should be noted that all groups are mainly have the average level of physical condition (from 68 to 54.8 %). High LPC in SMG group is absent, 30.2 % have the above-average level in the BMG, 18.8 % – in SMG-I, in SMG-II, SMG-III and MD – less than one percent. Below-average level in special medical groups ranged from 19.2 to 30.8 %, low level, respectively, from 5.6 to 18.3 %.

The results of studies let us conclude that the first-year female students with disabilities continually experience problems not only with health, but also with adaptation in society. At the same time the issues related to the organizational and methodical support of social and pedagogical rehabilitation of the first-year students to the academic and social life in the university are especially relevant.

Based on the foregoing, we developed a model of social and pedagogical rehabilitation of female students with disabilities in the educational space of the university (Fig. 1).

The model helped to create methodological and organizational bases for the carrying out correction and rehabilitation work and to provide social and educational assistance for each student in solving the problem of psychological, educational and social adaptation in a higher education institution. As part of the implementation of this model all the work was done on the basis of the KSTU-SibFU “VALEO” interuniversity health and wellness center. The center’s staff cooperate with the chairs of physical education and valeology, and those in turn work with the social divisions of their universities that have a joint task to increase a social status of students with limited physical abilities. Thus, a relationship of trust is being established between partners, new approaches to rehabilitation and educational technology are developing.

Scientific and methodological support is carried out as a part of the integration of the center’s staff, health workers and teachers of physical education of the universities resulting in the implementation of “round tables” on problems of rehabilitation of disabled people, joint publications, presentations at conferences and forums.

One of the important tasks of the scientific and methodological support is diagnostics of adaptive abilities of female students through the automated monitoring that includes five automated systems: “Health monitoring”, “Posture”, “Physical condition of a person”, “Health cue”, “Psychomotor system” (all systems are author’s, adapted to the conditions of the Siberian region and have a certificate or the Sectoral Fund of Algorithms and Programs or Rospatent). According to the results of testing, each examinee receives a personalized “Health passport” with specific recommendations. Quantitative evaluation of indices not only allows to determine the harmonicity, inharmoniousness of physical development, the level of physical

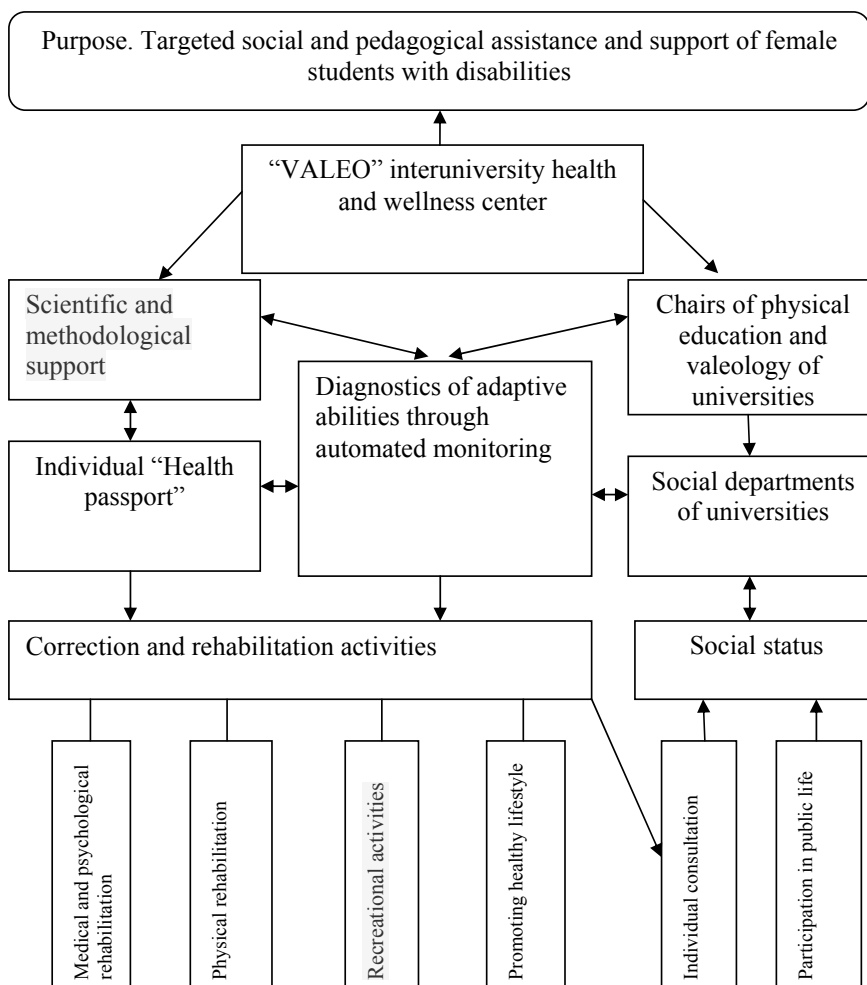


Fig. 1. A model of social and pedagogical rehabilitation of female students with disabilities in the educational space of the university

condition, regulatory systems and adaptive abilities of the organism, but also to carry out individual correction and rehabilitation work.

Biomedical rehabilitation is carried out by medical personnel on the basis of the information obtained by the center and an additional survey of the main diagnosis. The biomedical rehabilitation includes: massage, manual therapy, physiotherapy, electrical stimulation of muscles and acupuncture as prescribed by the doctor.

Physical rehabilitation includes changes in the curriculum for physical education. In agreement with the rector the classes for the female students

with MD are held not 2 times a week as stipulated by the program of the Ministry of Education, but 6 times a week. One-hour regular exercise in a gym each day, and 2 times a week exercise in the swimming pool. Exercise is considered not as physical load, but as a recreation means aimed at improving the immune system, strengthening the cardiovascular and respiratory systems of the body, strengthening the muscles that contribute to the maintenance of posture, holding the spine and muscles of the locomotive apparatus, maintaining high work capacity and functional readiness of the organism.



Special exercises are aimed at the development of physical qualities and the formation of motor skills to form a complex coordinating moves and biokinetic structures (center of gravity, head support, various dynamic and static postures) involved in the moves of the lumbar and thoracic spine. This approach is agreed by other specialists (Vakhrusheva, 2001)

The program of physical rehabilitation has been implemented through the introduction of special complexes in the educational process: "Stretch" – for stretching individual muscle groups. "Kalanetik" – for strengthening special groups of muscles with static exercise.

"A healthy back" – a set of exercises aimed at the respiratory and joint gymnastics with elements of yoga and incorporation of elements of psycho-muscular training (conscious control of involuntary muscle tone and psycho-emotional state).

Recreational activities were carried out by a special program during examinations and holidays. During examinations classes were held at a convenient time for the students and were designed to provide the neuropsychic relief, conservation of backup and adaptive capabilities of the organism.

During holidays independent application of acquired motor skills obtained during the learning process are provided for. Female students chose the type of physical activity on their own. These could be one-day hikes, gym sessions, swimming, skiing and others. A mandatory requirement was to perform morning exercises to maintain the correct posture, exercises for breathing and self-regulation.

Formation of a healthy lifestyle (HLS) was carried out with the help of the educational section of the program that included the acquisition by and individual of knowledge in the field of health culture, food culture, methods of motor qualities development, self-control and

non-traditional methods of health improvement. The main objective of this section was giving students a minimum of knowledge required in their personal life and professional activities to maintain and improve their own health. Given that for the female students with a disease of the musculoskeletal system the very way of life is limited with the movement deficits associated with a sedentary position during their studies and professional activities. The main educational program is aimed at creating the foundations and the inculcation of skills of HLS, which is one of the factors of social and pedagogical rehabilitation.

Individual counseling is carried out by specialists of high qualification out of the number of medical and teaching staff with the assistance of psychologists who create the necessary prerequisites for the development of a creative individuality. They define a hierarchy of motives for faster psychological, pedagogical and social adaptation in the learning process in the university that allows female students to feel the social comfort and take part in various activities.

Preliminary testing of the model in the Krasnoyarsk Institute for Trade and Economics showed high efficiency of the integrated approach to the rehabilitation of female students with MD. The developed complexes of physical exercise had an effective impact on the development of slow-moving joints, contractures, increased functionality of the cardiorespiratory system of the students' bodies with disorders of the musculoskeletal system.

The structure of social adjustment of female students with disabilities at the university includes the following levels:

- understanding of the potential possibilities, an extent of the development of disposition, an adequate understanding of the inward picture of the health defect.
- understanding of oneself as a subject of activity in the educational space of

the university in order to adapt to the impacts of the environment. At this level, the mechanisms of regulation of social activities, communication skills, acquirement of ways of learning activity are formed.

- understanding of oneself as an individual capable of professional fulfillment. At this level, students with disabilities are capable of long-term planning, foresight of alternative impacts of their activities at the expense of mastering different forms of reflection.

### Conclusion

The analysis of the results of the study suggests that the establishment of interuniversity health centers is of great importance in the implementation of various joint activities to

improve the health of students. The developed correction and rehabilitation activities on the basis of diagnostics using automated monitoring are aimed at improving special pedagogical and social rehabilitation of students with disabilities.

Within a framework of the proposed model of social and pedagogical rehabilitation of female students with disabilities in the educational space of the university, the complex issues of strengthening and maintaining health, cultivating health culture skills, promoting healthy lifestyles through scientific and educational activities are being solved. This allows us to create a new methodology for the preparation of specialists with disabilities, as well as to create a new paradigm of the personality-centered learning and the formation of personality traits with a high motivation to improve the social status.

### References

Апанасенко, Г.Л. [G.L. Apanasenko] Уровень соматического здоровья, его связь с физическим развитием и прогнозирование заболеваемости подростков / Г.Л. Апанасенко, В.К. Козакевич, Л.Д. Коровина // Валеология. 2003. № 1. – С.19-24.

Бондин, В.Н. [B.N. Bondin] Педагогические основы физкультурно-оздоровительных систем: автореф. дис. ... докт. пед. наук / В.Н. Бондин. Ростов-на-Дону, 1999. – 48 с.

Бородич, А. А. [A.A. Borodich] Занятия плаванием при сколиозе у детей и подростков. /А.А. Бородич, Р.Д. Назарова. М.: Просвещение, 1988. – 56 с.

Вахрушева, Л.А. [L.A. Vakhrusheva] Организация реабилитационно-коррекционной помощи детям и подросткам с нарушениями осанки и сколиотической болезнью / Л.А. Вахрушева // Сборник тезисов рег. науч.-практ. конф. 19-20 мая. Красноярск: КГТЭИ, 2000 г. – С. 48-50.

Гринина, О.В. [O.V. Grinina] Пути совершенствования вузовской системы лечебно-оздоровительной работы / О.В. Гринина, Е.И.Куча //Образ жизни и здоровье студентов. М., 1995. – С.9-12.

Гросс, Н.А. [N.A. Gross] Физическая реабилитация детей с нарушением опорно-двигательного аппарата / Н.А. Гросс. М., 2000. – 224 с.

Евсеев, С.П. [S.P. Evseev] Адаптивная физическая культура в системе высшего образования / С.П. Евсеев, Л.В. Шапкова, Т.В.Федорова // Теория и практика физической культуры. 1996. № 5. – С. 51-54.

Евсеев, С.П. [S.P. Evseev] Адаптивная физическая культура / С.П. Евсеев, Л.В. Шапкова – М.: Советский спорт, 2000. – 239 с.

Жиленкова, В.П. [V.P. Zhilenkova] Врачебно-педагогические аспекты адаптивной физической культуры инвалидов с поражением опорно-двигательного аппарата: учебное пособие / В.П. Жиленкова, Е.С. Ульрих. СПбГАФК им. П.Ф. Лесгафта. СПб. 2001. – 40 с.

Завьялов, А.И. [A.I. Zavialov] Методические разработки по биопедагогическому контролю в физическом воспитании студентов педагогических вузов// А.И. Завьялов, А.Н. Савчук. Красноярск: КПИ, 1988. – 19 с.

Казин, Э.М. [E.M. Kazin] Основы индивидуального здоровья человека: учебное пособие/ Э.М. Казин, Н.Г. Блинова, Н.А. Литвинова. М.: Владос, 2000. – 189 с.

Катцина, Т.А. [T.A. Katsina] Опыт реабилитации детей-инвалидов посредством физической культуры и спорта в Красноярском крае/ Т.А. Катцина // Физическая культура и спорт XXI века: сбор. трудов регион. науч.-практ. конф. Красноярск: Гротеск, 2002. – С. 131-134.

Карасева, Л. А. [L.A. Karaseva] Роль физкультурно-оздоровительных и спортивных мероприятий в профессиональной реабилитации инвалидов/ Л.А. Карасева // Адаптивная физическая культура. 2007. №. – С. 8 – 11.

Колтошова, Т.В. [T.V. Koltoshova] Физическая культура во вторичной профилактике функциональных нарушений и заболеваний позвоночника у студентов специальной медицинской группы / Т.В. Колтошова // Теор. и практ. физ. культ. 2005. № 4. – С. 60-63.

Концепция охраны здоровья населения Российской Федерации на период до 2005 г./ Российская газета, 13 сентября 2000 г. С. 6. [The concept of health protection of the population in the Russian Federation until 2005].

Косолапов, А.Б. [A.B. Kosolapov] Проблемы изучения, сохранения и развития здоровья у студентов /А.Б. Косолапов, В.П. Лофицкая. Владивосток: ДВГАЭУ, 2002. – 154 с.

Кураев, Г.А. [G.A. Kuraev] Исследование механизмов формирования, развития и сохранения психофизиологического здоровья учащихся в динамике обучения / Г.А. Кураев, Г.И. Морозова // Валеология. 2002. №3. – С. 60-65.

Кураев, Г.А. [G.A. Kuraev] Программа “Здоровье и образование”/ Г.А. Кураев М., 2003. – 97 с.

Люлина, Н.В. [N.V. Lyulina] Занятия в специальной медицинской группе: учебное пособие / Н.В. Люлина, Л.В. Захарова, Т.А. Шубина, Д.А. Шубин. Красноярск, КГТЭИ. 2005. – 158 с.

Люлина, Н. В. [N.V. Lyulina] Методика обучения здоровью студентов с повреждением опорно-двигательного аппарата / Н.В. Люлина, Л.В. Захарова, Т.А. Шубина // Мат. V Международного конгресса валеологов «Здоровье человека – 5». СПб, 2007. – С. 198 – 200.

Московченко, О.Н. [O.N. Moskovchenko] Здоровая спина: учеб. пособие / О.Н. Московченко, С.П. Рябинин, Т.А. Шубина, Т.А. Катцина. Красноярск: КГТУ, 1998. – 94 с.

Московченко, О. Н. [O.N. Moskovchenko] Практикум по валеологии: учебное пособие / О.Н. Московченко. Красноярск: КГТУ, 1999. – 228 с.

Московченко, О.Н. [O.N. Moskovchenko] Компьютерная оценка адаптации организма студенческой молодежи к климатогеографическим и экологическим условиям Сибири / О.Н. Московченко, Т.А. Шубина, Т.А. Катцина // Новое в экологии и безопасности жизнедеятельности: Тр. IV Всерос. науч.-практ. конф. – СПб, 1999. – С. 240-243.

Московченко, О.Н. [O.N. Moskovchenko] Компьютерная оценка социально-психофизиологической адаптации первокурсников в зависимости от индивидуально-

типологических особенностей /О.Н. Московченко, Н.А. Новоходько //Валеология. 1999. № 2. – С. 11–19.

Московченко, О.Н. [O.N. Moskovchenko] Применение метода электромионометрии в оценке функционального состояния нервно-мышечной системы у лиц с поражением опорно-двигательного аппарата / О.Н. Московченко, О.В. Злаказов //Профессиональное образование инвалидов» Тез. докл. Всерос. науч.-практ. конф. – М., 2000. – С. 69 – 72.

Московченко, О.Н. [O.N. Moskovchenko] Создание автоматизированной системы для оценки физического состояния студентов и внедрение его в практику формирования здоровьесберегающего пространства в условиях Сибирского региона //Отчёт (МО РФ) № ГР 01. 200107343. Красноярск, КПИ. – ГП «Центр МНТП», Москва, 2002. – 118 с.

Московченко, О. Н. [O.N. Moskovchenko] Концептуальные и методологические подходы к созданию автоматизированного мониторинга донозологического назначения / О. Н. Московченко, Г.Е. Герцог // Индустрия образования: Сб. статей. М.: МГИУ, 2002. Вып. 4. – С. 99-111.

Московченко, О. Н. [O.N. Moskovchenko] Автоматизированная система «Мониторинг здоровья» /О. Н. Московченко, Н. А. Новоходько, Н. Ю. Будков // Зарегистрирована в ОФАП Мин. обр. РФ. № ОФАП 1825 № г.р. 50200200007 – М., 2002.

Московченко, О. Н. [O.N. Moskovchenko] Автоматизированная система «Осанка» / О. Н. Московченко, А. П. Грудинин, Д. А. Шубин // Зарегистрирована в ОФАП Мин. обр. РФ. № 1826, г.р.50200200008 – М., 2002.

Московченко, О. Н. [O.N. Moskovchenko] Автоматизированный скрининг «Ориентир здоровья»/О. Н. Московченко, Е. В. Девяткова // Свидетельство РОСПАТЕНТа о регистрации программы для ЭВМ № 2002610464. – М., 2002.

Московченко, О. Н. [O.N. Moskovchenko] Автоматизированная система «Физическое состояние человека» / О. Н. Московченко, Н. Ю. Будков, Д. О. Капцов // Свидетельство РОСПАТЕНТа о регистрации программы для ЭВМ № 2002610465.– М., 2002.

Московченко, О.Н. [O.N. Moskovchenko] Интегральная оценка и коррекция донозологического адаптивного состояния индивида с помощью компьютерных технологий /О.Н. Московченко // Теория и практика физической культуры. 2004. № 11. – С. 53 – 56.

Московченко, О. Н. [O.N. Moskovchenko] Оптимизация физических нагрузок на основе индивидуальной диагностики адаптивного состояния у занимающихся физической культурой и спортом (с применением компьютерных технологий): дис. д-ра пед. наук / О. Н. Московченко Москва, РГУФКСиТ, 2008. – 331 с.

Московченко, О.Н. [O.N. Moskovchenko] Методика оценки опорно-двигательного аппарата у студентов / О. Н. Московченко, Л.В. Захарова, Д.А. Шубин // Актуальные вопросы развития студенческого спорта: сб. мат. межрег. науч.-практ. конф. – Омск: Изд-во СибГУФК, 2009. – С. 70 – 76.

Потапчук, А.А. [A.A. Potapchuk] Осанка и физическое развитие детей. Программы диагностики и коррекции нарушений / А.А. Потапчук, М.Д. Дидур. – СПб.: Речь, 2001. – 166 с.

Проходовская, Р. Ф. [R.F. Prokhodovskaya] Физическое воспитание студентов специального медицинского отделения в Иркутском государственном университете/Р.Ф. Проходовская: учеб. пособие – Иркутск: Иркут. гос. ун-т, 2001.

Темных, А.С. [A.S. Temnykh] Физическая культура. Адаптивная физическая культура: учебное пособие / А. С. Темных, А.Б.Муллер, Г.С. Несов – Красноярск: ИПЦ КГТУ, 2006. – 351 с.

Харитонов, Л.Г. [L.G. Kharitonova] Особенности физического состояния организма студенток, проживающих в условиях Крайнего Севера: монография / Л.Г. Харитонов, О.А. Цепко. – Омск: изд-во СибГУФК, 2006. – 128 с.

Шанина, Г.Е. [G.E. Shanina] Адаптивная физическая культура как фактор социального здоровья лиц с ограниченными возможностями / Г.Е. Шанина. // Теор. и практ. физ. культ. 2003. №1. – С. 56-58.

Шубин, Д.А. [D.A. Shubin] Адаптивная физическая культура для студентов с ограниченными физическими возможностями / Д.А. Шубин, Л.В. Захарова // Мат. XI Меж. науч.-практ. конф. «Инновационные преобразования в сфере физической культуры, спорта и туризма». Ростов-на-Дону, 2008. – С. 35 – 39.

Шубин, Д.А. [D.A. Shubin] Оптимизация физической нагрузки студентов с ограниченными возможностями / Д.А. Шубин, Л.В. Захарова // Физическое воспитание студентов творческих специальностей. Харьков, 2009. – С. 169-176.

Шубина, Т.А. [T.A. Shubina] Лечебное плавание в комплексной реабилитации студентов со сколиотической болезнью / Т.А. Шубина, С.И. Гончарова, О.В. Злаказов // Тез. докл. Всерос. науч.-практ. конф. «Здоровьесберегающее образование в условиях личностно-ориентированной модели». Красноярск. ГАЦМиЗ. 2001. – С. 95 – 97.

Gudrun D.T., De Pauw K. Teory and practice of adapted physical activity: Research perspectives / D.T. Gudrun, K. Pauw // Sport science review. 1996, 5.1 P. 1-11.

Health, mental well-being, and musculokeletal disorders: a comparison between Swedish and Australian dental hygienist / V.Ylipaa, F.Szuster, J. Spenser tt at// J.Dent. Hyg. – 2002. – V. 76, № 1/ – P. 47 – 58.

Wutscherk H. Grundlagen der Sportanthropometrie / H. Wutscherk.-Leipzig, DHFK.- 1988.- 160 p.

Wotf, T.M. Relationship of hassles, uplifts, and life events to psychological well – being of freshman medical students / T.M. Wotf, R. C. Elston, G.E. Kissling//Behav. Med.-1989. – V. 15, № 1. – P. 37 – 45.

Zeldow, P. B. Intimacy, Power and psychological well – being in medical students/ P. B. Seldow, S. R. Daugherty, D. P. Mc Adams// J. Nerv. Ment. Dis. – 1988. – V. 176, № 3/ – P. 182-187.

## **Социально- педагогическая реабилитация студенток с ограниченными физическими возможностями**

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*Предлагается модель социально-педагогической реабилитации студенток с ограниченными физическими возможностями в образовательном пространстве высшего учебного заведения. Основанием к созданию модели послужил экспериментальный материал, полученный в многолетнем эксперименте на студентках-первокурсницах, проживающих в Сибирском регионе. В рамках программы «Здоровье и образование» студентки разных вузов Красноярска проходили обследование в межвузовском оздоровительном центре “VALEO”. Сравнительный анализ показал, что студентки основной медицинской группы имеют более высокие показатели физического развития и морфофункциональных параметров по сравнению с их сверстницами, имеющими ограниченные физические возможности, и в частности, повреждение опорно-двигательного аппарата.*

*С помощью модели созданы методологические и организационные основы для комплексного решения вопросов социально-педагогической реабилитации и оказания адресной поддержки и помощи на индивидуальном уровне. Мотивация студенток на укрепление здоровья средствами физической культуры и адаптивного спорта, активное участие в различных мероприятиях вуза (КВН, Валеада, различные интеллектуальные олимпиады, судейство соревнований и т.п) способствует повышению их социального статуса. Представленные материалы на основе модели взаимодействия межвузовского оздоровительного центра с кафедрами физической культуры и валеологии, а также социальными службами вузов и медицинским персоналом, позволяют формировать на более высоком уровне социально-педагогическую реабилитацию студенток с ограниченными возможностями в условиях высшего учебного заведения, что способствует созданию социально адаптированной образовательной среды. Эффективность данного подхода обоснована на примере одного из вузов города.*

*Ключевые слова: социальная и педагогическая реабилитация, студентки, модель, инвалидность, автоматизированный мониторинг, физическое состояние.*

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