

Kyrgyz National Games as Means of Strengthening the Respiratory System of People at a the Age of 50-55 Years Old

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Abstract

This work studies peculiarities of national outdoor games and their influence on respiratory system of people preretirement age (50-55 years old) in gender division, who are permanent residents of middle mountains.

Methods of examination used: physiometry (lung capacity); breath-holding test (Shtange-Gench test); mathematical and statistical methods.

Overall average and variation of changes of these indexes of people engaging in and not engaging in national outdoor games were defined. Breathing tests educed positive increase of functional backup of respiratory system both of men and women in both groups. The principles of methodology and organization of national outdoor games for people of 50-55 years of age were developed.

Key Words: Health, National Outdoor Games, Respiratory System, Ethnopedagogical School.

Introduction

People's health depends not only on the health service, but also on the whole complex of natural and socio-economic conditions. It is people's health should serve as the main "visiting card" of socio-economic maturity, culture and prosperity of the state.

Health is the one of the most important indicators of the "quality" of man and the human population, and it is an absolute value for a person of any age, especially for people of preretirement age, because this age is associated with an increased risk of multiple diseases, and thus the growth of material, time and psychological costs of treatment and disease prevention. Moreover, exposure to diseases in the preretirement age is objectively due to a decrease of immune function of body in this period.

Preretirement age is a critical period in full life cycle of man. If at this time you not make smart investments in health potential and support the physical qualities of a person at an optimal level, then it will end with shortening of the useful time in the human life cycle. Then a man loses his high productiveness and creativity, and goes into the status of a dependant (A.Kh. Karasaeva, 2010).

Motional regime becomes very important for middle-aged people (50-55 years old), as in this period knowledge and valuable practical experience of the person is accumulated. But in this age, reserve capacity and resistance of the body against many environmental factors reduce, and the morbidity rate increases. Pointing to it, I.V.

Muravov emphasizes that a healthy lifestyle helps to keep quite satisfactory performance up to 70-75 years old. But it is necessary to perform physical exercises, to work the muscles in order to compensate for deficiency of physical activity, and to harden your body (G.N. Volkov, 2009; N.A. Fomin, Iu.N. Vavilov, 1991). In the mentality and cultural traditions of the Kyrgyz people health has been considered as one of the highest human values. Kyrgyz ethnos has experience in social and spiritual contribution to formation and maintenance of human health in terms of middle mountains. Scientific research involves a comprehensive study of the phenomenon of health in terms of formation of a balance between health expenditure and completion of its potential in the conditions of mountain climate throughout the entire life cycle of men and women (Kh.F. Anarkulov, 2003; A.Kasen, 2004; M.K. Saralaev, M.O. Bukuev, S. Mambetkaliev, 1995).

The Target of Our Research is: development of technology for formation health and improvement of physiological indexes in preretirement period by methods of ethnopedagogical school of Kyrgyz people of residents of middle mountains of Kyrgyzstan.

Research Tasks

1. To study peculiarities of national outdoor games and their influence on health status, directivity of their changes when using ethnical means and methods of influence in age period 50-55 years old.
2. To study effectiveness of methods of ethnopedagogical schools and perform comparative analysis of respiratory system of adult people of 50-55 years old in gender division, who are residents of middle mountains.

Organization and Methods of Research

Organization of research included:

Getting the sanction of adult population and fulfillment of their requirements:

- about provision research results,
- about provision of notes of the lessons on national outdoor games,
- training of teachers and instructors of physical education on carrying out of national outdoor games.

32 adult people were examined. The first group of national outdoor games consisted of 16 adult (8 – men, 8 – women), the second group consisted of 16 adult people not engaged in national outdoor games (8 – men, 8 – women). The research task included selection and experimental check of efficiency of application of the national outdoor games and its influence on respiratory system.

At the first stage of the study the parameters of physical activity in form of the national outdoor games, causing the development of respiratory system and the formation of motor skills were defined: database of national games were created, summary plan for carrying out of national outdoor games classes were developed. Database of national games for people of preretirement age consists of 34 games, which we believe will most optimally meet the objectives of our research. They divided into: mental (conceptual, intellectual), for physical development, development of physical qualities, pin; games for breath.

At the second stage (2010-2011)

- measurements were made, aimed at determining the conditions of respiratory system of people not involved in the national outdoor games.
- measurements were made, aimed at determination of efficiency of suggested methodology of carrying out of the national outdoor games in the group involved in national outdoor games.

The research was carried out in Ananievo village, Issyk-Kul region, Issyk-Kul oblast. Peoples' age was fifty – fifty five years old.

Adult people involved in the national outdoor games under the supervision of physical training instructed played national outdoor games three times a week (At minip alys zherge baru (long riding), Basty-basty (free-for-all), Kar menen urushuu (sack battle), Kar atyshmai (snowball), Kar menen uruu (strike of figures with snowballs), Korkok batyr (timid hero), Ordo (Shagai), Sook syndyrmai (bones break),

Toogo chyguu zhana tushuu (climbing and walking down the hill), Balta yrgytmai (axe cast), Suunu tash menen urup chachyratuu (splashing by shot of water with a stone), Toguz kargool (nine balls), Bel karmashyp zherden kotorushmoi (tearing off each other from the floor by belt seizure), Bel karmashyp tartyshuu (redrawing each other by the belt), Kalmak kotorush (Kalmyk lifting), Arkan tartysh it tartysh (tug-of-war), Ashkabak chapmai (hit the pumpkin), Dongok zharuu (chock cracking), Zhanyryk chakyrUU (echo calling), Count (sanoo), Bash ailanma (whirl), Tez atka minuu zhana tushuu (quick mounting and landing from horse), Tynshap buiumdu tanu (recognition of item by sound and other).

Adult people not involved in national outdoor games carried on everyday labor activity.
Duration of exercise is 60 minutes.

The following research methods were used in the work:

Medicobiologic Research Methods

- physiometry (lung capacity, arterial tension, cardiac rate);
- breath-holding test (Shtange-Gench test);

Mathematical and Statistical Methods

- arithmetic middling;
- standard deviation;
- coefficient of variation;
- error of arithmetic middling;

Evaluation of authenticity of difference between uniform indexes was made on critical value of Student's t-test. For this purpose T-actual number and number of degrees of freedom were calculated.

Research Findings

Main Kyrgyz national outdoor games, athlete competitions and entertainment, which amounted more than 1000, have different historical roots, related to different functions: military, educational, ceremonial, and reflect different sides of life and daily round of the people. We studies national games of Kyrgyz people, and selected among them the most allowable to conduct under the conditions of organized exercises. “National games for preretirement age people (50-55 years old)” were written for the first time, which reflects name of the game, description, organizers, ethnopedagogical goals, communication with traditions and ceremonies, structure of movements, physical qualities, mental development, social skills, ethic standards, creativity, educational point (table 1).

Table 1

<i>At minip alys zherge baru (long riding)</i>	
<i>Game description</i>	<p>Preparation to game: number of participants - 2-10. Passage participant, having specified march route and prepared required equipment, products, shall start it.</p> <p>Game content: variety: “Too minip alys zherge baru” (camel trip). On a signal, participants initiate motion on horse till the fixed place. Participants hang together and go strictly on route. The task of each participant is to reach the point of destination go on horseback.</p> <p>Game unit: to pass maximum distance staying with group</p> <p>Game Rules: you shouldn’t break away from the group and change march route.</p> <p>Instructional Guidelines: before the start, during the rest, stop and after passage perform additional instruction and sum up the results.</p>
<i>Organizers</i>	passage is made under the direction of experienced participant or leader
<i>Strategy of play</i>	to cover the distance, prescribed by the group
<i>Ethnical Principles</i>	the higher social status the more requirements to quality of riding (clothes, attributes, horse breed). Ability be at odd with a horse, common understanding with animal (friend)
<i>Development of physical qualities and structure of movements</i>	develops endurance, coordination of movements. Development of body muscles, hip joints and joints of top belt, stability of position, support of body posture, beauty of movements at horse control
<i>Development of consciousness</i>	quick understanding, quickness of decision making
<i>Social Skills</i>	interaction with animal and environment
<i>Ethic Standards</i>	understanding horse value, love for nature
<i>Creativity</i>	ride manner
<i>Educational Point</i>	self-discipline, self-cognition, self-education
<i>Toogo chyguu zhana tushuu (climbing and walking down the hill)</i>	
<i>Game description</i>	<p>Preparation to game: number of players - 5-10; location - mountains. Players choose the leader and determine the line of march.</p> <p>Game content: Players behind the leader one by one and one after another move strictly on route. Having ascended a mountain, players walk down the hill also behind the leader.</p> <p>Game unit: accurate walking behind the leader on route</p> <p>Game Rules: the distance between the players mustn’t be disturbed, no one should break the line and violate the line of march.</p> <p>Instructional Guidelines: leader must be familiar with the line of march.</p>
<i>Organizers</i>	the most experienced participants
<i>Strategy of play</i>	move on route behind the leader
<i>Ethnical Principles</i>	be able to take bearings in the locality, use the ground at a profit
<i>Development of physical qualities and structure of movements</i>	endurance, dexterity, motor ability, physical capability. Develops muscle of body and feet
<i>Development of consciousness</i>	attention, thinking
<i>Social Skills</i>	applied, situational, learn to move through broken terrain
<i>Ethic Standards</i>	perform the duties of security each other, responsibility, seriousness
<i>Creativity</i>	sense of mutual help
<i>Educational Point</i>	insistence, purposefulness, self-administration, perseverance to overcome difficulties in the way of achieving the goal

Functional completeness of breathing is determined by how much sufficiently and timely the need of cells and tissues of organism in oxygen is satisfied and carbon dioxide formed by the oxidation is removed from them.

According to our data, chest excursion was examined and this rate in both men and women was significantly higher in the group involved in national outdoor games (P<0,05) table 2.

Table 2 : Indicators of external respiration system of people at the age of 50-55 years old M±m

Averages	Chest Excursion (cm)	Lung Capacity (ml)	Breathing Rate (times)	Sample	
				Shtange (c)	Gench (c)
Men (n=16)					
Not involved in national outdoor games					
M	5,4	2578,7	23,0	38,5	18,3
S	2,8	572,9	4,4	13,2	3,8
m	0,7	131,4	1,0	3,0	0,9
V	20,1	22,2	23,4	34,3	21,0
Involved in national outdoor games					
M	7,1*	3800***	20,0***	49,3*	21,3
S	3,1	187,5	3,5	9,4	6,4
m	0,4	43,0	0,8	2,2	1,5
V	18,2	6,6	17,5	19,0	30,0
Women (n=16)					
Not involved					
M	4,1	2400	23,0	18,2	12,0
S	2,2	479,1	1,1	7,8	2,3
m	0,3	49,4	0,3	1,9	0,6
V	15,4	59,4	6,3	29,0	20,0
Involved in national outdoor games					
M	5,4*	3100***	18,0***	23,4*	15,0**
S	2,8	419,1	2,1	7,6	3,3
m	0,4	39,6	0,2	1,7	0,8
V	17,4	59,4	10,1	34,0	22,0

Note: *- adequate when ($P < 0,05$); ** - adequate when ($P < 0,01$); ***- adequate when ($P < 0,001$).

External breathing represents the gaseous exchange between the outside environment and blood of lungs capillary tube, i.e. pulmonic circulation. Lung capacity determines possibility of organism's adaptation to physical exercise, to a lack of oxygen in the inspired air. Indicators of lung capacity among our examined men and women involved in national outdoor games was significantly higher ($P < 0.001$) than those not involved. The increase of lung capacity is considered to be an indicator of increased functional state of the external breathing apparatus. The respiratory rate is known to be one of the main indicators of respiration. Healthy adults usually have 14-18 breaths in one minute. According to our data, it varies between 18-23 breaths per one minute. But respiratory rate of both men and women involved in national outdoor games was significantly lower ($P < 0.001$) than those not involved.

Breathing tests with holding of breath and combined tests are widely used to assess the functional status of respiratory and cardiovascular systems. In terms of Strange sample, it is possible say that both men and women in the group involved in the national outdoor games have significant differences ($P < 0.05$). According to the results of Gench sample, men involved in national outdoor games have some increase of it, and women have significantly higher ($P < 0.01$). The findings suggest a positive dynamics of development of these systems. Thus, in terms of external respiration system there are significant changes towards improving the performance of people involved in the national outdoor games.

Discussion

In content, the Kyrgyz national games and physical exercises are multilateral, covering both physical and mental basis of personality, which is quite natural, since the effect on the body when they is made through the function of central nervous system and its functions such as attention, memory, thinking, imagination, etc. They can be classified according to age groups: adults, youth and children, as well as male and female, including the extent of their impact on the development of intellectual, physical qualities, ethical standards, and social skills. The culture of our ancestors includes created by them sports, national games and physical exercises, it is enough to recall the traditional ways of keeping in shape.

For centuries, they accompany the daily lives of children and adults, develop vital qualities: endurance, strength, dexterity, quickness, instill honesty, fairness and dignity [Anarkulov Kh.F., 2003; SaralaeV M.K., Bukuev M.O., Mambetkaliev S,1995]. Many of them have a centuries-long history: they have survived since ancient times, passed on from generation to generation, coopting the best national traditions. They improved to the extent of human economic activities, to the extent of improvement of his mind. National sport traditions depended on many factors: customs, landscape, climate, nature, etc. The facts suggest that the processes of mutual cultural influence and cultural communication have a great influence on the character of the games themselves as an important means of spiritual development of people. The effect of exercises on the health of elderly age people is also found in the works of foreign authors (Penedo, Frank J^a; Dahn, Jason R^{a,b} ? 2005; Brian Faragher, Cary L., 2007; Edward McAuley², Bryan Blissmer³, David X. Marquez, Gerald J. Jerome, Arthur F. Kramer, Jeffrey Katula⁴).

From the medical position and practice of movement education, peculiarities of national physical culture, it can be noted that due to systematic effects of riding (especially "zhorgo salysh"), participation in traditional hunting (mergenchilik, munushkerlik, it agytuu, anchylyk), games and competitions, refereeing of competition, education of children and youth, people of preretirement age for a long time preserve clarity of mind, physical capability and men's capacity (some men had children whose name was Altymysh ("Sixty"), Zhetimish ("Seventy"), and some of them had one or two wife). Besides, during the councils, in discussing the major issues of generation and tribe, leaders and military commanders consulted with Aqsaqals (aldermen). This is another proof that the people of preretirement age preserved clarity of mind and had an experience and tactical imagination.

It is also important that the Kyrgyz national games and physical exercises are most commonly used in the natural environment, which with its natural factors of tempering (solar radiation, temperature, air humidity, etc.) has additional impact on human and on the further improvement of body functions and its efficiency. Kyrgyz national physical exercises can be applied at all levels of physical education system. Such exercises should take its worthy place in popular health and fitness work with the adult population. Many researchers noted that "national characteristics, hereditary and social, personal habits, lifestyle, have a very significant impact on the physical development and motor fitness of people". National outdoor games are traditional means of pedagogy - as the experience of many centuries shows, at all times they clearly reflect the way people live their life, their everyday life, work, national foundations, the notions of honor, bravery, courage, development dexterity in children, endurance, speed, flexibility, strength, beauty of movement, manifestations of mother wit, persistence, creative imagination, resourcefulness, commitment and desire to win, fantasy, humor, memories, personal enrichment, fostering a sense of camaraderie, and, undoubtedly, perform in the unity, physical, mental and moral education.

Conclusions

1. Indexes of lung capacity and variability of changes in these parameters of people involved and not involved in national outdoor games were experimentally justified.

- at rest, variation of indexes has significant difference by sex and age, however, lung capacity, chest and respiratory rate after performance of the national outdoor games have significant differences.
- respiratory samples revealed a significant increase in functional reserve of the respiratory system of men and women in both groups.

2. We developed seven principles of the methodology and organization of physical training for people 50-55 years of age:

- The principle of determining the specific needs of the body to restore the weakened sides of life;
- the principle of matching capabilities of the organism (possible violations of positive changes);
- direction of training effects on the body's reserve capacity enhancement, restoration and maintenance of basic physical qualities: endurance, strength, flexibility, dexterity, speed, maintaining balance, orientation in space;
- qualitative features of the means and methods of physical training
 - combination of ethnopedagogical means;
 - modern means of physical training;
 - therapeutic facilities of physical training (massage, physical therapy, etc.).
- complexity of the effects, simultaneous effect on all body systems;

- principle of definition of the individual minimum of relaxation by time and method;
- the principle of motivation for health "every day and life-time."

Formation of the adjustment for health: the child - is brought up, adult – is motivated. It is important that national outdoor games were varied and accessible in a variety of conditions, which gives different health benefits.

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