

## **DELAY THE AGING PROCESS AND INCREASE LONGEVITY THROUGH PHYSICAL ACTIVITY AND SPORT**

*(Professional paper)*

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### **Abstract**

*For adults and senior age groups physical activity includes remedial exercise or leisure activities, dynamic types of activities (such as cycling or walking), professional activities (if the person continues to work), household chores, games, competitions, sports and planned activities within the daily activities, family and society. In order to strengthen the cardiopulmonary system, musculoskeletal tissues, functional status and reduce the risk of non-communicable diseases, depression and cognitive impairment is recommended physical activity.*

**Keywords:** *adults, physical exercises, sport, health risks, hypokinetic, longevity, chronological and biological age*

In today's society a person is under a danger, called - hypokinesia. It is attributed largely to the prevalence of so-called diseases of civilization. Under these conditions, particular attention is given to the maintenance and improvement of the human health. For modern man of great danger are the cardio - vascular and oncological diseases, mental burden, diabetes and disorders in the bones - joints. Processes of old age and aging are considered by science Geragogy, as its task is to establish the most important prerequisites, conditions and factors that are conducive to psycho-physiological health and longevity of the elderly.

Some gerontologists believe that man cannot live very long. For example, Dr. Christopherson expresses this thought "Man can live 300, 400 and even more years, if the body provides all the necessary vitality substances". Be long-lived and to feel cheerful and healthy is a dream of each of us. Longevity is one of the important characteristics of the aged population of a country. It is closely related to human health which depends on a number of socio - economic conditions, nutrition, lifestyle and more (Vainer (Вайнер), (2001).

At the beginning of retirement age man still keeps a sufficient level of their physical potential, which becomes very important issues relating to the healthy way and style of life. Very important for every adult is the gradual preparation of the body for the coming year, and the changes that will occur in the body.

Influence on aging may have different natural and social factors and conditions - material and cultural wealth, a rational way of life, environmental protection, scientific achievements of medical science and practical

health and so on. Various researchers have tried to identify the impact of the active motor mode on longevity.

Since man has become a rational being, he began to seek for extension of his life (Vlaykov (Влайков), (1998). For many centuries and millennia this aspiration, however, remains a myth, a dream that has inspired poets, but is easily collapse in the face of the "cruel" reality. The appeal to the people against the "short" life is not new. It is familiar with a generally unsuccessful effort to extend the life of a man. The ancient cultures have left much evidence that this discontent dates "from time immemorial". And not only has the "ordinary people" complained about the brevity of life. Famous and wise people are not exceptional in this regard. For example, the first aphorism of the ancient Greek physician Hippocrates begins as follows: "Ars longa, vita brevis (est) ... (Life is short, art is long lasting). This aphorism has become a winged phrase and its translation into Latin (Vita brevis, ars vero longa) and is repeated many times by poets, writers, philosophers. Organization of public and personal lives can provide better opportunities for life extension.

To slow down the process of aging and extending the life, it's important to sustain health and preventing premature aging. This would take place by maintaining sustainable habits of regular physical activity.

The elderly, leading passive lifestyle or any restrictions regarding the disease, will receive health benefits if they move from the category of "passive" in the category active "on some level". Older people who currently do not meet the recommendations for physical activity should aim to increase duration, frequency, and, ulti-

mately, the intensity of the subsequent implementation of these recommendations (World organization, 2015).

The main focus of physical activity during this period of life consists in maintaining skeletal muscle tone and functional systems in these age limits. The body of an old man no longer has such compensatory opportunities. Therefore, the man of the “third age” must show pedantry, coherent and systematic use of various means to maintain his health - especially through exercise and activity.

Physical activity improves quality of life, increases the level of adaptation of the body, its resistance to the action of adverse factors (Frolykis (Фролькис), 1988).

Physical activity and exercise for people of “the third age” caused a number of factors leading to improved adaptation - regulatory mechanisms in their body:

- Reducing the level of oxygen in the work of the heart
- Improving blood flow to the tissues in proper ventilation of the lungs
- Anti stress effect - increasing the sustainability of the hypothalamus and pituitary gland
- Height of mental ability and positive emotions.

Physical activity and exercise regimen should be tailored to the biological, not the calendar age. The term “age” has a rich content. Usually it is indicated the timing of individual human existence - number of experienced in years (months and days). The so called. “Chronological” (“calendar”) age indicates the length of human existence from the moment of his birth. Nowadays are in use the concepts of “biological age”, “psychological age”, “social age” and “functional age”.

Biological age of a person is determined by a complex characterization of the functional status of various organ systems and assessment of health (Petrov, Петров), 2005).

Optimal physical activity favorably affects both the quality of life, and the biological age of humans. It improves the coordination of movement, in consequence of which maintaining the balance and reducing the risk of falling. The falling of the elderly is a great danger, which is characterized by reducing the bone mass, the bones become more brittle and recovery is a long and difficult process. One of the most serious injuries is a fracture of the hip bone, which can be avoided by taking exercise.

Reducing the risk of cardiovascular diseases such as stroke, heart attack, hypertension and others, can be avoided with reducing the weight by decreasing the calorie intake and maintain an appropriate level of physical activity.

Systematic work can favorably affect not only the available chronic diseases, but also lead to a reduction in the volume of administered drugs. Permanent physical activity has beneficial effects to the whole organism. Furthermore, improves the mental activity, which is particularly important in the elderly.

The positive effect of physical activity in people over 65 years is the following - relieves the course of

diseases such as:

- Osteoporosis;
- Diseases of the cardio - vascular system;
- Hypertension;
- Osteoarthritis;

Besides those, the physical activity serves toward the prevention of many other diseases.

Often the question arises - why many people with insufficient level of physical culture live to a ripe old age, and those who regularly engage in sports die early. Physical culture carries this name because it has become part of the cultural life of every person. As 100 years ago Ilya Mechnikov said, “old age is a disease that must be treated”. It emphasizes the need of a way of life in order to achieve the longevity. This lifestyle scientist called “orthobiosis” – also known as compliance with the values of hardworking, healthy and moderate life (Mechnikov (Мечников), 1908).

Another advantage of research in physical activity among older people develops the self-discipline, self-respect, a prerequisite for socialization and integration into society. Thus they “help the old man to get rid of the isolation in which he has fallen due to a lack of understanding and negative reaction of the surrounding people.”

The role of sport and physical activity in the lives of the elderly has the following meaning:

- Therapy - enter in competition with themselves they improve their performance, overcome fatigue and despair;
- Psychological - every adult, participating in sports or doing physical activities, except as recreation, expressed joy and satisfaction inherent in every person;
- Physical activity and sports activities serve to re-integrate in the society. They are a powerful incentive for the restoration and establishment of contacts with the surrounding world.

Recommendations to the people of the “third age”:

1) In the study of the conditions and factors conducive for maximum life expectancy usually indicate:

- Nutrition (consuming plenty of vegetables, fruits, nuts and especially yogurt);
- Functional activity (moderate daily activities with physical and mental work, performing the most varied movements);
- Climatic conditions (prolonged standing in the air);
- Prosperous social interactions (with family and others);
- The regime of work and rest (compliance with the natural rhythm of life);
- Domination of positive emotions (joy in rearing children, plants, animals and observance of traditions);
- Avoidance of extremes (overeating, lack of sleep, alcohol abuse and others.)
- Prevention of affections and stress conditions; and so on.

2) Regarding physical activity must comply with

the following guidelines:

- The intensity of the exercise must match the capabilities of the old man;
- Emphasis should be placed on flexibility exercises / maintain and increase the flexibility /;
- If the old man is impaired balances is necessary to deal with this kind of exercise;
- If the old man is impaired health or with a disability before physical training is necessary consultation with a specialist.

Physical activity of adults and older people fulfill the primarily social functions. They can be assigned as correctional, educational, legal, reforming, knowledge, values, communication and others functions.

In the process of organized sports a man can acquire a new motor skills, habits and prevention of various diseases.

Also important social functions are - communication with people of the same age, overcoming isolation and loneliness, building positive self-assessment. All

this leads to a delay of the aging process and increases longevity.

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