INTRODUCTION

Involvement of the population in systematic physical activity and sports dictates the development of modern forms and methods of physical activity, taking into account the permissible loads for older people. Physical activity regularly among people over 60 can reduce the risk of coronary heart disease, diabetes, stroke, age-related problems with blood pressure, the likelihood of cancer cells, and the development of depression. Exercise contributes to the improvement of general condition and health. Aging characteristics of elderly people (a decrease in the total amount of bone tissue, thinning of articular cartilage, the development of coxarthrosis, osteochondrosis, a decrease in the volume of muscle tissue, a decrease in lung elasticity, a decrease in the contractile function of the heart muscle) necessitate a scientific approach to organizing the wide involvement of older people in physical activity to ensure its compensatory effect on negative age processes.

In connection with the new conditions for retirement, the concept of “active aging”, which is used all over the world, is relevant, which represents an opportunity for development throughout life, participation in social activity, and physical and spiritual improvement. (BUDYAKOVA et al., 2019).

This concept is directly related to the policy of active aging, which implies a system of principles and measures aimed at improving the quality of life of the elderly population, which requires the implementation of measures to improve the physical and cognitive functioning of the body, which ultimately leads to a decrease in the general level of depressive moods and the risk of loss of autonomy in older people. Sports are a decisive factor in improving the quality of life, active aging, and longevity, exercise is rightfully considered an effective therapy among the elderly (LIN & SAKUNO, 2020).

In Russia, the development of physical activity and sports is given special attention in the framework of the national project “Demography”, the federal project “Sport is the norm of life”, “The older generation” and the State program “Development of physical culture and sports”. These documents provide for the creation of conditions for sports and physical activity, an increase in the level of provision of the population with sports facilities, taking into account their consumer preferences, the socio-psychological profile of consumers (BABADEV et al., 2019), and the involvement of the population in sports. In the period 2020-2030, it is planned to solve the problems of attracting people of all age groups to physical activity and sports and introducing them to sports and a healthy lifestyle, including the older population.

The scale of world research confirms the importance and relevance of increasing the physical activity of the older population, its involvement in physical activity and sports to ensure active aging and longevity.
MATERIALS AND METHODS

The theoretical and methodological basis of the study is the methods of comparative analysis, structural-functional, systematic approach, methods of sociological survey, and static assessment of the relationship of the analyzed variables. The methods of the comparative approach led to the analysis of publications by foreign and domestic authors engaged in research on the topic of physical activity of the elderly population, longevity, and related issues. Foreign scientists are actively exploring the relationship between physical activity, health, and longevity. The influence of sports on the quality of life of retirees, participation in sports programs is investigated (EBRAHIMI et al., 2020). An assessment of the effect of exercise on the cardiovascular system of older adults is given in (SANT’ANA et al., 2020).

The negative impact of a sedentary lifestyle, sedentary behavior in older people is considered (SILVA et al., 2020). Based on the results of the analysis of the impact of sports on the health of the elderly in Taiwan, it was revealed that physical activity and the level of physical fitness are associated with a psychological state. The relationship was revealed between the level of physical activity, low mobility, physical fitness, and happiness in healthy elderly people over the age of 65 years. (LIN et al., 2020).

In Latin American countries, studies have been conducted on the causes of depression in the elderly. An analysis of the psychosocial factors predisposing to depression was carried out, it was revealed that the elderly feels less social support, experience loneliness, and have a less clear and definite purpose in life. (SALINAS, 2020) Scientists in Iran have identified the relationship between Pilates and feelings of happiness, reduced anxiety, and depression in older women. (Ravari et al., 2021) Sports and active aging highlights (LIN & SAKUNO, 2020).

Domestic authors pay attention to the concept of “active aging” and the resilience of the older population (BUDYAKOVA et al., 2019) to the issues of active longevity (PAPKOVA et al., 2018). The assessment of the physical condition of the elderly, the motives for using the means of physical education is considered (PASHCHENKO, 2020). As part of the research work “Sociological survey to determine the individual needs (motivation) of all categories and groups of the population in conditions for physical culture and sports and factors that hinder them” under an agreement with the Federal State Budgetary Institution “Federal Scientific Center for Physical Culture and Sports “Dated April 21, 2020, No. 0373100110420000005, the main aspects of the attitude of older people to sports were studied. 2444 respondents were interviewed at the age from 60 to 75 years old, from 76 to 79 years old, 80 years old, and older from 85 subjects of the Russian Federation.

The collection of initial sociological data was carried out in various economic and economic zones, in rural and urban settlements. On average, according to the survey, the sex distribution corresponded to the average Russian values. The greatest deviation was observed in the category of people aged 80 and over, but it should be borne in mind that with increasing age, the prevalence of women in terms of sex and age distribution tends to increase due to their longer life expectancy.

Empirical research methods are presented by quantitative (method of sociological survey of different population groups using Computer Assisted Telephone Interview and Computer-Assisted WEB Interview technologies) and qualitative (method of the group focused interviewing using elements of technology “facial scanning”) methods of collecting primary information. (KULYAMINA et al., 2020). The analysis of the presence of the relationship between the variables was carried out using the calculation of the Pearson χ² test (the calculated level of asymptomatic significance less than 0.05 indicates the presence of a relationship with a probability of 95%).

To analyze the correlation between sports and the assessment of health level, the coefficients of contingency and the Cramer V-test were used (the calculated values range from 0 to 1, where 0 is no connection, 1 is a strong connection). Directional measures of connection were also calculated for nominal variables λ (lambda) and T (tau) Goodman-Kruskal (the dependent variable is the variable where the calculated value ranging from 0 to 1 is higher) to identify the dependent variable, the strength of the influence of one variable on another.
The main goal of the study is to determine the effect of physical activity on health, the duration of illness per year, substantiation of the relationship between physical activity and the level of health of older people, as well as proposals to stimulate sports, increase the involvement of those involved and increase the interest of those who are not involved.

**RESULTS**

In the course of conducting a sociological study, the attitude of older people to sports, as well as their self-assessment of the level of health, was revealed.

**Figure 1.** Distribution of answers of the population over 60 years old with physical activity and sports.

| Age Group          | Engaged | Not Engaged |
|--------------------|---------|-------------|
| 60 to 75 years     | 39.9%   | 60.1%       |
| 76 to 79 years     | 24.4%   | 75.6%       |
| 80 and over        | 21.8%   | 78.2%       |

**Source:** Search data.

On average, 38.1% of the older population is engaged in activity and sports (Figure 1). The most popular way to go in for sports in all age categories is “doing it yourself”. This option was chosen by 41.4% to 67.4% of respondents in different age subgroups. Among those who chose the option of independent study, preferences in age subgroups were distributed as follows: from 60 to 75 years old prefer to study independently 2-3 times a week (22.1% and 35.3%, respectively); persons aged 76 to 79 and over 80 prefer to practice independently 3 times a week.

Among all groups of respondents, the most preferred sports are swimming, exercise therapy, and walking. However, preferences are highly dependent on the age group. Persons aged 60 to 75 years old prefer swimming (26.5%), persons aged 76 to 79 years - also swimming (35.3%) and exercise therapy (28.6%), and persons aged 80 years and older - swimming (25.4%) and walking (26.1%). The main incentive for going in for sports in this age group is the recommendations of doctors (the frequency of choice is 33.2%), while this motive is increasingly prevalent with age.

In the process of identifying individual motives and incentives in physical activity and sports in the older population, the following tendencies can be observed. More than half of the surveyed respondents prefer to engage in physical activity. Among the main reasons for exercising are health promotion, a healthy lifestyle, and enjoyment of the exercise process. Satisfaction with the conditions of the provided physical culture and sports services also indicates an increase in motivation to go in for sports.

The respondents, focusing on their motivation, choose health sports, such as exercise therapy, swimming, hiking, Nordic walking, and exercises. It should be noted that the interviewed respondents are not ready to go in for sports and physical activity on their own. Often, individuals in the age group under study begin to engage in physical activity and sports on the advice of doctors. The general assessment of health depending on sports activities is shown in Figure 2.
The health level as good or very good is assessed by an average of about 33.5% of the sample, but with age, this estimate significantly decreases (only 22.0% of people over the age of 80 gave such an answer). Overall, 19.6% rate their general health as weak or very weak. At the same time, there is a significant differentiation by age categories: in the age group 60-75 years old, only 17.5% of respondents chose such answer options, and in the group over 80 - 43%. It is possible to judge the presence of a statistically significant relationship (the significance of the Pearson $\chi^2$ test for the analyzed variables at level 0) at the average level between sports and the assessment of health level (the value of the contingency coefficient and Cramer’s V-test at the level of 0.4).

Based on the calculation of the coefficient $\lambda$ and T Goodman-Kruskal, we can say that healthier older people go in for sports. This necessitates the adaptation of physical activity programs for people with poor health and chronic diseases.

The most popular way to monitor health status among all groups of respondents is considered to be blood pressure measurement (this option was chosen by 50.2%). In second place is the measurement of heart rate (42.1%), in third place is the measurement of body weight (36.4%) and complex medical examinations (34.6%). The least used control methods are motor tests and athletic performance controls.

Significant differentiation by age categories is noted only when the answer “I use nothing” is selected. This answer is most popular in the “youngest” group of respondents from 60 to 75 years old (frequency of mention is 16.8%), and in the group of 80 and older, it was chosen by only 9.9% of the respondents. The dependence of the duration of sick days in a year on sports activities is shown in Figure 3.
In general, the sample did not get sick for a day over the last year (42.6%), while it is interesting that there is no strong differentiation in the answer to this question in age groups. On average, about 11.6% of respondents were ill for 30-60 days, however, according to this indicator, there is an uneven distribution of answers in age categories. Most of all, people aged from 76 to 79 years old and over 80 (26.1% and 20.4%) were ill. The smallest number of respondents in each group chose the options where the following periods of illness are mentioned: 4–6 days, 90 or more days. It can be said at a statistically significant level that those involved in physical activity have fewer days of illness (the significance of the Pearson $\chi^2$ test for the analyzed variables is at level 0, which indicates the presence of a connection), the value of the contingency coefficient and Cramer’s $V$ test at the level of 0.3 indicates a low the level of connection between sports and the number of days of illness. The values of the Goodman-Kruskal coefficients $\lambda$ and $T$ allow us to say that mainly those who are less sick go in for sports, which is associated with the presence of chronic diseases in older people: diabetes, coxarthrosis, osteochondrosis, heart, and other diseases. In this regard, it becomes necessary to develop adaptive programs of physical activity, specialized classes, flexible approach of trainers-instructors. The assessment of a healthy lifestyle depending on sports activities is shown in Figure 4.

There is a statistically significant relationship between sports and a healthy lifestyle in both men and women, with a slightly stronger relationship observed in men (the value of the contingency coefficient and Kramer’s $V$-test are at the level of 0.5 and 0.4, respectively). Based on the
calculation of the coefficients $\lambda$ and $T$ of Goodman-Kruskal, it can be said that maintaining a healthy lifestyle determines the involvement in sports and physical activity. Thus, there is a relationship between sports activities of older persons, the duration of sick days, an assessment of the level of health, and a healthy lifestyle.

**DISCUSSION**

Studies conducted in foreign countries confirm the influence of sports in old age on the level of health and a sense of the full value of life. The states of the USA, Canada, Great Britain, China are rightfully considered the leading sports powers. Much attention in these states is paid to the development of mass sports and the involvement of the population in physical activity.

In the United States, actively promoting an active lifestyle for the elderly through newsletters, interactive tools, Move Your Way widgets. They encourage engaging in multi-component physical activity, including balance training, as well as aerobic and muscle exercise (ABOUT THE PHYSICAL ACTIVITY GUIDELINES, 2020).

For Canada, it is typical to attract people over 55 years old to active pursuits, the Canada 55+ Games platform is functioning. (Canada55plus, 2020) At the Canadian provincial and territorial level, the governance structure for sports and physical activity significantly varies and is often structured on a case-by-case basis in each Canadian area.

In the UK, engaging different groups in physical activity is done locally. Considering the administrative-territorial division of Great Britain, active communities are engaged in the development of mass sports - public organizations financed from local governments - county councils, as well as the Sports Council of England. (ACTIVE PARTNERSHIPS, 2020). In particular, active partnerships focus their efforts on physically inactive people and underrepresented groups who will benefit most from an active lifestyle. A feature of these partnerships is independence, work in all sports, events, venues, and audiences, focused on the needs of their local communities. (SPORT ENGLAND, 2020) There is a project “Be active - be healthy” to attract older people.

In general, in the United States, the level of physical activity depends on the living conditions of the individual, the level of his education. State programs are more aimed at preventing morbidity, including by increasing physical activity. In European countries, the level of activity is supported by national projects aimed at popularizing sports. The leading sports world powers, as well as around the world, use methods of control and self-control over physical activity using gadgets and mobile applications. The active use of digital and information and communication technologies is noted, software for the control and self-control of motor activity is being developed.

In China, much attention is paid to the creation of sports infrastructure and the formation in the minds of citizens of the importance of playing sports at the level of state strategy (GAO, 2018). Active Longevity projects are being launched in the constituent entities of the Russian Federation, providing an opportunity to engage in various types of physical activity, including Nordic walking, swimming, outdoor activities, and other activities and leisure activities for older people. In Moscow, the Moscow Longevity program (KORNILOVA, 2020) operates on the Mos.ru platform, and similar projects operate throughout Russia.

The World Health Organization recommends recreational exercises, cycling, walking, aerobic exercise for the population over 60 years old, which helps to strengthen the cardiopulmonary system, the general condition of the body and reduce the risk of various diseases, depressive conditions (WHO, 2016). Studies have shown the need to promote physical activity and a healthy lifestyle for older people. It is advisable to increase the level of knowledge of the population about physical activity and sports, approaches to building a personal program, the peculiarities of choosing a sport or physical exercise following age, gender, health status, individual characteristics of the lifestyle, and other factors.

It is necessary to raise the awareness of senior citizens about the availability of paid and free services of sports and recreation organizations, their availability. It is also advisable to continue developing programs to support senior citizens in the constituent entities of the Russian Federation, including implementing measures to encourage people 60 years of age and older.
to engage in physical activity and sports. It is necessary to ensure the financial availability of classes for the elderly.

Also important is the construction of sports facilities, depending on the needs of territorial units. It seems quite effective to attract medical personnel to enhance the sports activity of older people, recommend doctors, post information materials about sports, and the possibilities of training in polyclinics and medical institutions.

CONCLUSION
The aging process of the population is one of the most significant trends in the development of modern society due to shifts like reproduction. In this regard, there is a need to ensure a high quality of life for older people. One of the components of the quality of life is the physical activity of the elderly. In addition to being a source of pleasure, sports and physical activity have proven to be beneficial for physical and mental well-being, social cohesion in older populations, and participation in social and political life. The importance of involving the population in sports is understood all over the world, national projects and state programs are being implemented, attention is paid to the active longevity of older citizens, programs, and activities are being developed to promote health, the intellectual and cultural needs of the older population are being implemented, the economic activity of the older population.

According to the results of a sociological study of the population over 60 years old, the relationship between physical activity and the duration of illness, health, a healthy lifestyle, and longevity is confirmed. It was revealed that elderly people are engaged in physical activity, who assess their level of health as higher. The dependence of physical activity and the duration of the illness during the year has been proven. The results of the study theoretically and practically confirmed the existence of dependencies and relationships between involvement in physical activity, health, and longevity. The results obtained indicate the need to improve the adaptive programs of physical activity for the older population, taking into account the existing chronic diseases, the characteristics of the organism, the introduction of specialized exercises, as well as the flexible approach of trainers-instructors.

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Physical activity of the older population as a factor of active longevity

Atividade física da população idosa como fator de longevidade ativa

Actividad física de la población de edad avanzada como factor de longevidad activa

Resumo
O artigo apresenta os resultados de um estudo baseado nos dados de um levantamento sociológico russo da população. 2444 pessoas com mais de 60 anos foram entrevistadas em toda a Rússia. Com base nos dados obtidos, foi feita uma avaliação da relação entre atividade física e autoavaliação do nível de saúde, da duração da doença por ano e da realização de um estilo de vida saudável. Foi revelado que, em um nível estatisticamente significativo, os idosos que vão para o esporte avaliam-se como mais saudáveis do que aqueles que não jogam esportes e levam um estilo de vida menos ativo, revelou-se que idosos mais saudáveis e menos frequentemente doentes são mais ativos no esporte.

Palavras-chave: Idosos. Pessoas com mais de 60 anos. Atividade física e esportes. Estilo de vida saudável.

Abstract
The article presents the results of a study based on the data of an all-Russian sociological survey of the population. 2444 people over 60 years old were interviewed throughout Russia. Based on the obtained data, an assessment was made of the relationship between physical activity and self-assessment of the level of health, the duration of the illness per year, and the conduct of a healthy lifestyle. It was revealed that at a statistically significant level, elderly people who go in for sports assess themselves as healthier than those who do not play sports and lead a less active lifestyle, it was revealed that healthier and less often sick elderly people are more active in sports.

Keywords: Elderly people. People over 60 years old. Physical activity and sports. Healthy lifestyle.

Resumen
El artículo presenta los resultados de un estudio basado en los datos de una encuesta sociológica totalmente rusa de la población. 2444 personas mayores de 60 años fueron entrevistadas en toda Rusia. A partir de los datos obtenidos, se realizó una evaluación de la relación entre la actividad física y la autoevaluación del nivel de salud, la duración de la enfermedad por año y la realización de un estilo de vida saludable. Se reveló que a un nivel estadísticamente significativo, las personas mayores que hacen deporte se evalúan a sí mismas como más saludables que las que no hacen deporte y llevan un estilo de vida menos activo, se reveló que las personas mayores más sanas y menos enfermas son más activas en los deportes.

Palabras-clave: Personas mayores. Personas mayores de 60 años. Actividad física y deportes. Estilo de vida saludable.