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Biological Resources as the Means of Elderly People Social Adaptation

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Abstract: The study considered the use of biological resources from the Botanical Garden of the Belgorod State University as the base material for the social adaptation and rehabilitation of elderly people. The additional ways to solve the problems associated with the methods of garden therapy are proposed. The practical recommendations for group thematic activities among elderly and senile are developed and tested. These recommendations are designed for one week, provided the daily conduct of relevant trainings. The research is focused on the recreational development of biological resources and the rational regulation of their use. It was found that the use of garden therapy in the programs of the Botanical Garden biological resources, the available phyto expositions, improves the health of the elderly and senile, enhances self-confidence, allows to acquire new skills, provides a high degree of rehabilitation effect. The use of biological resources as the means of geriatric rehabilitation improves physical and mental condition of elderly people in the following areas: intellectual (cognitive), social, emotional (psychological) and physical one (physical development or rehabilitation).

Key words: Biological resources, garden therapy, geriatrics, social rehabilitation, cognitive

INTRODUCTION

Every developed country seeks to use biological resources of a territory for the benefit of citizens to maintain their physical and mental health. The deterioration of the demographic situation, typical for the majority of European countries including Russia, the modern demographic trends in the world indicate the transition from a society with high fertility and high mortality to low fertility society with increased life periods.

The issues of working capacity preservation among elderly and senile people and their social adaptation in retirement become relevant. An increasing number of people of this category needs a special correctional and rehabilitative care. The main objective of the rehabilitation measures is to obtain an opportunity for citizens to participate in this social group work and socially useful life, improve its quality on the basis of terms established by a state, society and a person. One of the new approaches to the solution of adaptation and rehabilitation issues is the use of biological resources at Botanical Gardens for social and psychological adaptation and the improvement of health among certain social groups, based on garden therapy techniques (Sizyih *et al*., 2006; Tohtar *et al*., 2013).

The aim of the study was to investigate the use of biological resources from the Botanical Garden of Belgorod State University as the means of elderly people social adaptation and rehabilitation on the basis of garden therapy methods development.

MATERIALS AND METHODS

The research was conducted at the Botanical Garden of Belgorod State Research University (Belgorod, Russia). We used the methods of garden therapy (Sizyih *et al*., 2006; Tohtar *et al*., 2013), sociological research (Kravchenko, 2014), the developments of excursions and routes (Vishnevskaya *et al*., 2014), androgogics (Kolesnikova, 2007).

RESULTS AND DISCUSSION

The success of elderly social adaptation and rehabilitation in many respects depends on the conditions of their life processes, especially life-support, socialization, communication and recreation. The implementation of each of these functions depends on the ability of mastering knowledge, skills, behavioral stereotypes, value orientations has the legal, organizational and economic support.

The change of a man social status at retirement is accompanied by a withdrawal from an active professional activity. At that the effectiveness of the adaptation process to new status is determined by the degree of

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social and personal relationships support, not only within the family but also in society. During this period, a choice is made in favor of an active social life with a positive outlook or in favor of an individual life which often leads to depression, accompanied by a sense of helplessness, despair and fear of death. Tese issues are accompanied with the problems of physical health that contribute to the aging process: the deterioration of a musculoskeletal system, decreased visual acuity, hearing loss, memory impairment, the development of senile asthenia (Dumachev *et al*., 2015).

There is a concept of geriatric assessment in geriatrics, which includes the assessment of all aspects of an old man's life, identifying problems and the ways of its solution. The programs and legislation acts are developed aimed at elderly people return to an active life.

Gardening therapy is referred to an affordable and an effective method of rehabilitation among elderly people, including those with disabilities as it is affordable for the majority of the specialized agencies and different age and social groups. In the Belgorod region, this program is based on existing resources of the entire region as well as the Botanical Garden of Belgorod State University (Degtyar and Chernyavskih, 2006; Dumacheva and Cherniavskih, 2013; Kotlyarova *et al*., 2013; Lisetskii *et al*., 2011).

The Botanical Garden is a unique natural site in the region and is included in the database of the unique infrastructure objects of Russian Federation (http://ckp-rf.ru/usu/200997/). The phytogenetic fund of the Botanical Garden includes >2,500 species and varieties of plants including endemic, relict, rare and endangered species of the Red and Green Book of Russia. The Botanical Garden has all main types of terrain, soil types, types of landscapes, natural areas and forest-steppes, typical of European Russia Southern parts.

The research of Botanical Garden biological resources prospects use with the aim of geriatric rehabilitation started with the study of elderly and senile age needs in the knowledge of the world, the adaptation to the changing environmental conditions, the interaction with other people and society as a whole. To this end, we used the primary information gathered during the field research, the study of the needs and preferences, sample survey of Belgorod City and Belgorod region residents. The analysis of the results allowed to reveal the motives of individual behavior for this age group and the factors determining these motives.

The study included the respondents at the age of 50-60; 60-75; 75-85. The results showed that 54.4, 63.1 and 72.7% of 50-60; 60-75; 75-85 categories have a positive attitude to the participation of garden therapy groups in some research. At the same time, the rest did not express an explicit negative attitudes and showed their indifference to this issue. In the course of the interview, the respondents expressed the opinion that the garden therapy is considered as the factor of independence, quality of life and emotional well-being, the obtaining of certain skills and knowledge necessary in later life.

Certain needs and requirements for the garden therapy courses were revealed. They were taken into account during the development of guidelines. In particular, the form of each session cycle was requested to develop, taking into account the physical condition of the visitors and take into account personal interests and preferences when a task subject is chosen. Classes must meet the safety requirements, correspond to the individual needs of different age groups.

Thus, practical recommendations for the group thematic activities among elderly and senile people were developed and tested at the Botanical Garden taking into account the age group of visitors and physical health state. Classes are designed for one week, provided the daily conduct of relevant trainings.

An approximate plan of training performance provides for a short tour at phyto expositions and an apothecary garden, the distribution of people into groups according to their medical condition and age groups (visually impaired, the diseases of musculoskeletal system, mental disorders, etc.). The subject tours demonstrating different collections and Botanical Garden plots were differentiated in the following types: educational, informative, interactive, adventure and attractive ones. Visitors are interested most of all in interactive and thematic tours. During the formulation and carrying out of thematic tours an active work with visitors is provisioned including themed quizzes, discussions aimed at the strengthening of reality positive perception and the development of positive emotions.

The 2nd-5th day involves the research in the groups according to a particular program (analysis of seeds, preparation of soil, preparation of pot culture, harvesting, sampling, planting of seedlings, cuttings of fruit and berry crops, sowing the seeds of vegetable, flower and tree and shrub crops, diving of seedlings, planting of seedlings, grafting fruit trees, fertilizing, mulching and other practical skills of plant growing, depending on a season). It is planned to provide the study of plant cultivation, use, storage technologies as the prospects of garden therapy development for the people with disabilities.

The research with different types of plants by studying their names, trains memory, broadens horizons. It enhances the motivation activity of elderly people. The

research with small seeds offered along with this (in the process of their collection, treatment, sowing) contributes to the development of hand fine motor skills, improves eye movement coordination, especially necessary for people with problems of the musculoskeletal system. The seeds of legumes and crop grasses should be used as the materials for this method of garden therapy. Besides, the cones and seeds of various species of gymnosperms, cultivated at the Botanical Garden also proved themselves splendidly. Customers say that they have pleasant tactile sensations during the treatment of this plant material.

The 6th-7th day includes workshops, the lessons of arts and crafts (making of collages, wall panels). In Winter time, such studies may be conducted using the materials collected during Spring and Autumn.

The collection of plants available at the Botanical Garden used in garden therapy sessions is constantly expanding due to the inclusion of wild food plants into it, also used in homeopathy, folk medicine and herbal medicine. One of the interesting areas in garden therapy is the introduction, selection, development of specific methods and techniques of cultivation and the issues of aromatic herbs practical implementation.

The surveys of respondents after the end of cycle studies showed that 53.4% believe that such studies contribute to their active participation in useful activities; 56.8% believe that they provide stimulation and development of the senses; 67.4% believe that they provide the opportunities for conscious socially important activities; 74.2% believe that they develop a growing sense of confidence in themselves and in their abilities; 75.3% believe that they develop the ability to concentrate and internal motivation; 75.8% believe that they train dexterity and give practical skills; 97.4% believe that they provide a calming effect. Over 70% of respondents indicated that the main result is the return of confidence, the obtaining of new skills and abilities. This indicates a high degree of rehabilitation effect of garden therapy as the means of social adaptation.

CONCLUSION

Thus, the studies revealed a complex influence of garden therapy on the processes of adaptation and rehabilitation of elderly. It was found that the biological resources of the Botanical Garden used as the base of garden therapy serve as an important means of social and psychological adaptation and rehabilitation of elderly. Using the techniques of garden therapy allows to improve physical and mental condition of elderly people in the following areas: intellectual (cognitive) and social, emotional (psychological) and physical one (physical development or rehabilitation).

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