

Natural Therapy as Integral Technology of Social and Physical Rehabilitation

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Abstract

The concept of natural therapy is a product of the evolution of social work theories. The ecological model of social work was formed in the 60s of the twentieth century and assumed the inclusion of an ecological context in the social sphere and social work as a practical activity. In the 21st century, environmental methods of social work have changed the focus and social rehabilitation has become a priority using such environmental technologies as animal therapy, garden therapy, agrotherapy, aesthetic therapy, and so on. The article examines the Ukrainian national experience in the development of social and physical rehabilitation of various categories of the population using environmental technologies. One of the main features of the formation of national experience of the concept of natural therapy is that today the use of its components is at the initial level. The technologies for animal-assisted therapy are somewhat better developed in comparison with agrotherapy and garden therapy. The combination of these technologies into a single rehabilitation complex makes it possible to use the advantages of each of these technologies (animal therapy, agrotherapy and garden therapy) to achieve the maximum rehabilitation effect for each client, which requires social and physical rehabilitation.

Keywords: agricultural therapy, ecological technologies of social work, garden therapy, landscape gardening, natural therapy, physical rehabilitation, social rehabilitation, social work.

Introduction

The end of the 20th century and the beginning of the 21st century were marked by a massive interest in ecology. This process was due to a large number of negative technogenic influences, which led to the destruction of a large number of flora and fauna. The number of patients with oncological diseases increased tenfold. An increasing number of patients with seasonal allergies are diagnosed. Moreover, other diseases are directly related to the deterioration of the ecological situation in most countries of the world.

Technologies, aimed at greening not only industrial, but also at social processes, have been developed within the framework of most social institutions. Currently, discussions about further increasing greening are taking place in all spheres of public activity in all European countries and in many other countries. The topic of ecology is especially relevant for Ukraine. Since the country is still one of the European leaders in terms of harmful emissions, regardless of today's de-industrial processes. On the other hand, Ukraine is a state that has experienced the largest disaster in the history of mankind. It is the accident at the Chernobyl nuclear power plant. Therefore, the Ukrainian social way to reforms and prosperity depends at least not on raising its level of environmental friendli-

ness and creating of multi functional social and ecological systems within the framework of specific social institutions. One of the most important institutions of modern society is the institution of rehabilitation.

Modern man is constantly in need of rehabilitation and adaptation to the rapidly changing conditions of the current society. At the same time, there are social groups that are in dire need of social rehabilitation. Children with disabilities, the elderly, the veterans of military conflicts, people with mental illness and other categories of the population can be distinguished among them. Rehabilitation of the designated categories of the population is one of the most important social priorities of modern society. Otherwise, representatives of the designated categories of the population will not be able to fully function without high-quality rehabilitation within the framework of modern society. We believe that the process of social rehabilitation should comply with modern environmental principles as much as possible and perform the function of secondary socialization. That is why we propose to carry out social and physical rehabilitation through the active use of ecological methods of social work, physical therapy, occupational therapy and psychology. Currently, it is customary that ecological rehabilitation technologies are to be referred to such therapies as garden therapy, animal therapy and agricultural therapy. In our opinion, all the indicated technologies of social and physical rehabilitation should be applied in a comprehensive manner. They should be combined into a so-called unique complex as Natural therapy for this reasons.

Purpose of the study

The main purpose of the study was to substantiate the concept of Natural therapy as an integral technology of social and physical rehabilitation of ecological orientation, using therapeutic and rehabilitation effects of human interaction with animals and plants.

Materials and methods

The study used the method of extrapolation natural therapy, which allowed to transfer the experience of agrotherapy, animal therapy and garden therapy in working with other categories of the population who have similar disintegration problems. The use of structuralfunctionalism is due to the fact that in the theoretical part of the study and summarizing its general results was clarified the functionality of each of the elements of Natural therapy in rehabilitation, depending on the category of persons in need of rehabilitation and their nosologies. The study used the author's method of studying the level of socio-psychological adaptability to functioning in society. The direct sample of the study included 32 children aged 11 to 18 years and 20 people aged 67 to 75 years.

Results and Discussion

The development of ecological methods of social and physical rehabilitation has a long history. The foundations of animal-assisted therapy were laid during the wild animal taming and their domestication. At that time, the interaction between humans and animals became quite dense. One of the results of this interaction was social and therapeutic. It had rehabilitative effects. Naturally, in those ancient times, there were no scientific studies of the phenomena described by us. However, in general, the knowledge obtained as a result of observing this process was transmitted one by one. Animal therapy became a part of alternative medicine. A similar situation was observed in the usage of plants for therapeutic purposes. Moreover, if pharmacology directly uses the therapeutic properties of plants, then the rehabilitation properties of plants and other agricultural crops were previously less studied. They are actively being used in the framework of both social and physical rehabilitation now. Today, agricultural therapy and garden therapy are the most popular rehabilitation technologies that are based on the rehabilitation and therapeutic effects of human-plant interaction.

Today, animal-assisted therapy is actively used in various rehabilitation and leisure centers, schools, activities of public organizations in working with different groups of clients. There are not so many methodological materials regulating this format of social and physical rehabilitation, though. Japan and other Asian states are the leaders in the field of animal-assisted therapy. It is especially noteworthy to mention the achievements of such authors as Kamioka H, Okada S. (Kamioka et al., 2014). The designated authors have played a significant role in the systematization of effective animal therapy practices within the framework of social, physical and medical and social rehabilitation of different groups of patients. A similar theory for studying the effectiveness of animal therapy was developed by the Bulgarian scientist Budahn, Nichole M (Budahn, 2013). In the work of this author, the emphasis is on the use of animal-assisted therapy in the framework of social work and psychology. This particular model, in our opinion, is one of the leading directions within the framework of the concept of natural therapy. Since that time animal-assisted therapy has outgrown the level of physical rehabilitation, where it was originally used. Presently, there are all the prerequisites for the comprehensive use of animal-assisted therapy in the field of not only social rehabilitation, but also within the framework of other areas of social work and psychology.

In 2010 a team of authors, led by Chandler, Cynthia K and Portrie-Bethke Torey L, introduced their theory of animal therapy to the scientific community in combination with counseling for people with social rehabilitation need. The designated group of authors focused on the therapy and rehabilitation of clients with mental disorders (Chandler, 2012). In general, the approach of the designated group of authors can be recognized as one of the most important milestones in the development of the theoretical substantiation of animal-assisted therapy. In our opinion, the indicated approach can also be applied in the framework of the use of animal-assisted therapy in work and with other groups of clients, who need social and physical rehabilitation (people with disabilities, the elderly, people with post-traumatic syndrome, etc.). In this case, I would like to emphasize the psychotherapeutic effect that complements the use of animal-assisted therapy within the framework of psychology.

Different countries have different features of the use of animal therapy for rehabilitation purposes. Various forms of animal therapy are developing on the territory of Ukraine. Recently, therapy dog (canistherapy) and apitherapy have been gaining popularity, but nevertheless the most used form is hypotherapy, where a person interacts with a horse. National peculiarities of using the theory and methods of hypotherapy are formulated in the works of such authors Rudskaya A.I., Soldatov O.S. (Rudska, 2013), Popolitova R.A. (Popolitov, 2008). In the works of the designated scientists, the emphasis is placed on the fact that within the framework of Ukrainian and post-Soviet physical and social rehabilitation, it is customary to use hypotherapy and other types of animal-assisted therapy, mainly within the framework of the rehabilitation process with children with cerebral palsy. Such national features of the use of hypotherapy are associated with the fact that in Soviet times there were no effective technologies for social and socio-ecological interaction within the framework of the binary socio-biological system "man-animal world". Such national features of the use of hypotherapy are associated with the fact that in Soviet times there were no effective technologies for social and social and ecological interaction within the framework of the binary social and biological system man-animal world. It is this dysfunction that is one of the main factors in the environmental problems of modern Ukrainian society. Therefore, in addition to the social and biological context, this problem also has a social one. It clarifies the fact that representatives of generations over 25 years old have prejudices for the use of animals in their rehabilitation programs. In general, representatives of this age group cannot be suspected of animal-phobia, but their social experience and the peculiarities of their ecological socialization deny the possibility of using animals in the frame-

work of their rehabilitation programs. The popularization of animal-assisted therapy in the framework of rehabilitation work with clients of middle and older age will be one of the important social tasks of natural therapy in the nearest future.

In addition to animal therapy, the structure of the rehabilitation concept of Natural therapy includes the second block, which is based on the rehabilitation aspects of human interaction with the plant world. We single out agricultural therapy and garden therapy among such rehabilitation methods. The two designated ecological technologies of social and physical rehabilitation have a related methodology, but they also have certain differences.

Back to 1993, the Pakistani team of scientists Muhammad Afzal Javed and Umair Rashid Chaudhry described the technology of using “agricultural therapy as part of rehabilitation work within the framework of therapy and rehabilitation of patients diagnosed with schizophrenia. The experience, they described about, was used in some Pakistani medical and rehabilitation institutions” (Muhammad et al., 1993). Later, the technology of occupational therapy began to be actively used in different states, but mainly within the framework of occupational therapy and, mainly, in rural areas. Today, in Ukraine and other European states, rehabilitation technologies, based on agricultural with the use of processing agricultural products, are being actively discussed. This technology is especially relevant for people with disabilities, since it is difficult for them to realize their professional and work skills.

The inclusion of agricultural therapy is actively substantiated into the list of ecological methods of social work and the possibility of using agricultural in the framework of social rehabilitation of people with disabilities and elderly people is considered in the works of Y. Mosaev (Mosaev et al., 2020).

If we focused on the low level of involvement of middle-aged and older people in the system of rehabilitation measures with the active use of animal-assisted therapy, then the use of plants in the framework of most social practices is the main characteristic of this age category representatives, given as the example. This is due to the fact that the majority of the population of Ukraine comes from rural areas or their descendants. Rural working experience in the agricultural sector formed psychological attitude to positive attitude towards the agricultural sector and herbal medicine in these people. It is exactly this positive attitude that gives great prospects for the use of agricultural therapy in the work with middle-aged and elderly people. Meanwhile, in reality the situation is still the opposite. At the same time, agricultural and garden therapy are mainly used for work with children, since specialists in social and physical rehabilitation who work with children have a great tendency to experiment. They are adapted to the perception of environmental technologies of social work.

In Ukraine garden therapy was formalized in 2012 by introducing a special course of garden therapy in the system of controlled socialization of graduates of rehabilitation centers with musculoskeletal disorders, which was authored by I. Sarancha (Sarancha, 2012). Prior to the appearance of this course, garden therapy in Ukraine was practically absent in the practical plane and was considered as a theoretical concept with the implementation of individual techniques.

In 2019-2020, on the basis of the Khortitsa National Academy in cooperation with the public organization *We are not indifferent*, a concept and methodological basis for the development of garden therapy in Ukraine were formulated (Mosaev, 2020). The previous experience of using garden therapy in the Ukrainian realities was generalized, options for garden therapy locations were proposed as a part of this work, depending on the category of clients with whom rehabilitation work is planned. This work was the beginning of the systematic development of garden therapy in Ukraine.

In European countries, garden therapy is used within the framework of the work of psychology in most cases. This is evidenced by the works of Anna A. Adevi, Fredrika Mårtenss (Adevi et al., 2013). A tandem of designated scientists believes that garden therapy is one of the technologies for overcoming stress. In general, garden therapy is no longer used for rehabilitation purposes in Western Europe, but it is used as a part of the provision of palliative care for cancer patients and clients with psychiatric diseases. At the same time, the rehabilitation effects of garden therapy in the framework of individual and group programs of physical and social rehabilitation of clients are used less frequently.

The technologies we have listed are the basis for our concept. The implementation of the integral technology of natural therapy is designed in order to help people with disabilities, the elderly, veterans of military conflicts to discover new opportunities and personal resources with the help of ecological rehabilitation technologies and thereby improve the quality of life. In the article we mean, both, as potential clients of rehabilitation centers that provide social services as other members of society, who need social, psychological and psychological relaxation. There is no doubt, that the main directions of using the rehabilitation concept of natural therapy will be social and physical rehabilitation. Ukrainian, This problem has a high level of relevance with a relatively low level of funding and accessibility for most people and especially children with disabilities for Ukraine. The use of the rehabilitation concept named natural therapy in the work with other potential groups, that need social and physical rehabilitation, is practically absent and requires to be popularized and developed.

It cannot be argued that rehabilitation with natural therapy has a positive effect on the development and emotional background of people with disabilities and other nosologies. This form of therapy reduces stress and increases the state of calm in people with emotional disturbances, developmental delays and mental illness. It can also be viewed as a relaxing and empowering treatment that promotes a sense of personality and goal achievement. These positive rehabilitation effects underline, both, agricultural and garden therapy as an element of physical and psychological rehabilitation.

The rehabilitation concept of natural therapy can be used in connection with other rehabilitation concepts that are actively used in psychology and landscape gardening. In this series, one can name such rehabilitation directions as aesthetic therapy and recreational therapy. Aesthetic therapy successfully complements the main therapeutic rehabilitative effects of agricultural therapy and garden therapy. The main effect of aesthetic therapy in rehabilitation work is that rehabilitation technologies using garden therapy and agricultural therapy are implemented using specialized locations that carry aesthetic value and can not only be a pleasant addition to rehabilitation activities, but also contribute to direct rehabilitation.

According to Rosemarie Samaritter, aesthetic therapy has the greatest promise of application in the framework of work with people with mental illness (Rosemarie, 2015). In our opinion, estotherapy technologies can be applied within the framework of natural therapy. In our opinion, the therapeutic effects of aesthetic therapy can be actively used in the framework of social rehabilitation. Today, psychological rehabilitation technologies are related to social rehabilitation technologies.

Within the framework of aesthetic therapy, the psychological effect of color is also used in the classical sense, since monochromatic surfaces with prolonged exposure have varying degrees of mental suppression. The location of garden therapy, which carries a high level of aesthetics as they represent gardens, parks, raised beds, flower beds, etc. They represent the main feature of the collaboration of garden therapy and animal therapy with aesthetic therapy. But the only comprehensive solution in the such location creations is the rehabilitation park of the Khortytska National Acade-

my, which is located on the territory of the city of Zaporozhye (Rehabilitation park, 2021). The designated park is a unique rehabilitation park not only for Ukraine, but for the whole of Eastern Europe.

N. Derevyanko notes “the rehabilitation park on the island of Khortytza, in accordance with the project, represents a limited territorial space, in which conditions for the restoration of physical, spiritual and mental health will be created for both adults and children with disabilities by obtaining medical, psychological, cognitive, cultural and animation, physiotherapy and social services” (Derevyanko, 2020). The rehabilitation park of Khortitskaya National Academy itself consists of several zones in the protected area of the island, which will be divided into different types of rehabilitation zones with their own specialization. In our opinion, the future development of rehabilitation work in the field of physical and social rehabilitation should be based on such rehabilitation parks.

In addition, locations of this kind in the future will become so-called "hubs" for the production of environmental methods of social work. Today, the rehabilitation park on the island of Khortytza is one of the positive examples of rehabilitation locations using various methods of social and physical rehabilitation, including technologies of the natural therapy concept.

Another complementary component of the natural therapy rehabilitation concept is recreational therapy. The essence of this type of therapy is the rehabilitation of different groups of social work clients using relaxing techniques. In recreational therapy, in addition to the natural geographic landscape, the landscape is of great importance, that is, the complexes of relief, soil, vegetation, water and engineering and architectural recreational structures are specially organized, creating favorable conditions for the recreation of clients in need of rehabilitation of people positive emotional reactions.

The team of researchers consisting of Brent L. Hawkins, Jasmine A. Townsend, Barry A. Gars believe that recreational therapy techniques have great potential in the rehabilitation of military personnel (Brent et al., 2016). The development of recreational therapy as one of the complementary components of the rehabilitation component of natural therapy it is very important for modern Ukraine, which suffers from a low level of rehabilitation of military personnel, who have experience of participation in military conflicts.

The main result of our study was the integration of agricultural therapy, animal therapy and garden therapy into a single rehabilitation complex of natural therapy. In the research of our scientists, agricultural therapy, animal therapy and garden therapy were used as separate rehabilitation technologies in the work with children with disabilities and people with psychological and mental disorders. Our study showed that the integrated use of agricultural therapy, animal therapy and garden therapy in working with children with disabilities increases the efficiency of the rehabilitation process by 21.4%, and the elderly by 23.3% in social rehabilitation and by 14.1% and 16.2% in the framework of physical rehabilitation, respectively. The dynamics and features of the use of natural therapy in social and psychological rehabilitation gives us the opportunity to argue about the prospects of using natural therapy in the comprehensive rehabilitation of servicemen and representatives of the police and other law enforcement agencies. Spreading natural therapy has the prospect in the treatment of people with mental illness in the complex, not separately.

Conclusion

Natural therapy is an interconnected rehabilitation complex for people in need of social and physical rehabilitation. The components of natural therapy are agricultural therapy, animal therapy and garden therapy. Complementary areas of natural therapy include recreational therapy and aesthetic therapy, which are more often used in psychological rehabilitation. The main categories of

clients to whom the technologies of natural therapy are directed are people with disabilities, the elderly, military personnel.

References

- Adevi, Anna A., Mårtenss, Fredrika (2013). Stress rehabilitation through garden therapy: The garden as a place in the recovery from stress, *Urban Forestry & Urban Greening*, *12*(2), 230-237
- Brent, L. Hawkins, Jasmine, A. Townsend, Barry, A. Gars (2016). Nature-Based Recreational Therapy for Military Service Members. A Strengths Approach, *Therapeutic Recreation Journal*, *L*(1), 55–74. doi.org/10.18666/TRJ-2016-V50-I1-6793
- Budahn, Nichole M. (2013). Effectiveness of Animal-Assisted Therapy: Therapists' Perspectives. Retrieved from Sophia, the St. Catherine University repository website: https://sophia.stkate.edu/cgi/viewcontent.cgi?article=1159&context=msw_papers
- Chandler, Cynthia K; Portrie-Bethke, Torey, L; Minton, Casey A Barrio; Fernando, Delini M; O'Callaghan, Dana, M.(2010). Matching Animal-Assisted Therapj Techniques and Intentions with Counseling Guiding Theories, *Journal of Mental Health Counseling*; Alexandria, *32*(4),(Oct 2010): 354-374.
- Derevyanko, N.P. (2019). Location for garden therapy in the rehabilitation park of the Khortytsia National Academy (Khortytsya Island) Abstracts of the participants of the scientific-practical Internet conference: "Actual problems of garden and park art" November 27. Uman, Uman National University of Horticulture, P. 7-9.
- Kamioka, H, Okada, S, Tsutani, K, et al (2014). Effectiveness of animal-assisted therapy: a systematic review of randomized controlled trials. *Complementary Therapies in Medicine*, *22*(2), 371-390.
- Mosaev, Yu.V. (2019.) Features of garden therapy as a technology of social work with the elderly. Current research in the social sphere: materials of the fourteenth international scientific-practical conference (Odessa, November 18, 2019) / ch. ed. V.V.Korneshchuk. Odessa: FOP Bondarenko MO, P.61-63.
- Mosaev, Yu.V., Derevyanko, N.P., Grigorenko, O.S. (2020.) Methodical manual on the introduction of garden therapy in Ukraine, Zaporizhzhia, NGO "WE CARE", 40p.
- Mosaev, Yu.V. (2020) Agricultural therapy as a kind of ecological technologies of social work. Current research in the social sphere: materials of the sixteenth international scientific-practical conference (Odessa, November 17, 2020) / ch. ed. V.V Korneshchuk. Odessa: FOP Bondarenko MO, 2020. P.64-66.
- Muhammad Afzal Javed, Umair Rashid Chaudhry, TahirSuleman, Muhammad Rashid Chaudhry (1993). Agricultural New Concept of Rehabilitation for Chronic Schizophrenics in Pakistan, *Journal of Pakistan Medical. Association*, *43*(12)
- Popolitov, R.A.(2008.) Hippoprehabilitation, its social significance and prevalence in the rehabilitation system of people, including those suffering from cerebral palsy, as well as effectiveness when working with children with spastic forms of this disease. Materials of the interregional scientific-practical conference with international participation, April 17-18, 2008.Simferopol, P.146-148.
- Reabilitationpark. Available: URL: [https://khnnra.edu.ua/reabilitatsijnij-park/\[2021-07-01\]](https://khnnra.edu.ua/reabilitatsijnij-park/[2021-07-01])
- Rosemarie, Samaritter (2018). The Aesthetic Turn in Mental Health: Reflections on an Explorative Study into Practices in the Arts Therapies. *Behav Sci (Basel)*. 2018 Apr 23;8(4):41. doi: 10.3390/bs8040041.

- Rudska, A.I., Soldatova, O.S.(2013). Social rehabilitation of children diagnosed with cerebral palsy by hippotherapy. *Bulletin of NTUU "KPI" Political Science. Sociology. Right. Issue 4 (20)*, 107-113.
- Sarancha, I.G. (2012.). Special course "garden therapy" in the system of controlled socialization of graduates of rehabilitation centers with disorders of the musculoskeletal system. *Collection of scientific works of Kamyanets-Podilsky National University named after Ivan Ogienko. Series: Socio-pedagogical, 19 (2)*, 402-409