


Research Article

Psychological Rehabilitation of Disabled People Due to Diseases of the Musculoskeletal System and Connective Tissue

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Abstract

According to the World Health Organization, about one fifth of the total numbers of people with disabilities are people with functional disorders of the musculoskeletal system and connective tissue. These functional disorders affect the musculoskeletal system due to a variety of injuries and defects. In their psychological essence, these diseases are the cause of a serious and difficult crisis in the development of the individual, requiring from the person huge internal efforts to restore optimal interaction with other people and with society as a whole. The defeat of the locomotor system affects the disturbance of the morphological and functional characteristics of a person, entails a change in self-consciousness, namely self-esteem and identity in the characteristics of the physical "I". In connection with this, the basis for restoring (rehabilitating) the psychological (personal) status of a disabled person should be the elimination of incorrect representations of self-consciousness about his physical self, ensuring his acceptance of his changed external appearance, the development of a desire to compensate for physical limitations that have arisen after trauma and neutralize feelings inferiority. In the course of rehabilitation of disabled people with functional disorders due to diseases of the musculoskeletal system and connective tissue, the formation of a real and positive attitude to the image of the physical "I" is designed to reduce the level of depression, anxiety, feelings of hopelessness, activation of the person's life plans and her ability to overcome life difficulties. The positive outcome of rehabilitation as an achievement of the state of adaptation depends on the resources of the person who became disabled as a result of physical trauma and the effectiveness of specially organized psychological influences carried out in the process of implementing trainings aimed at forming a positive attitude towards the image of the physical self. For this category of disabled people, the use of the complex of author psychological training programs is proved to be very effective: "Self-knowledge and self-development", "Temporary perspective", dance-expressive training, art therapy training and development of compensatory abilities.

Keywords

Psychological rehabilitation; Correction of self-consciousness; Invalids; Defeat of the musculoskeletal system; Self-perception; Physical condition

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Introduction

The progressive development of society and medical science, unfortunately, is still accompanied by a wide prevalence of various somatic pathologies [1,2]. The pathology of internal organs [3,4] is of great prevalence, which is widely studied in the clinic [5,6] in the experiment [7,8]. At the same time, despite the rather high occurrence of pathology of internal organs in humans, it does not always lead to disability [9,10]. More often disability occurs as a result of functional disorders caused by diseases of the musculoskeletal system and connective tissue, leading to pathology of the musculoskeletal system [11].

According to the World Health Organization, about one fifth of the total numbers of people with disabilities are people with musculoskeletal involvement, which is the consequence of a variety of injuries in adulthood [11]. In their psychological essence, these violations are the cause of a serious and seriously experienced abnormal crisis of personality development, which requires from it huge internal efforts to adapt to the social and physiological changes that have arisen due to the disease [12].

The changes that occur as a result of the disease impose an imprint on the whole life activity of a person, including socioeconomic, social and interpersonal relations, and also affect the sphere of the professional sphere. Often, the disabled person is unable to adapt to the negative consequences of the disease that arise in these areas, which, as a result of the hopelessness of this situation, leads to disadaptation of the person [13,14].

The defeat of the musculoskeletal system necessarily entails a change in the appearance of the person, his physical and functional characteristics, which also causes a change in the person's image of his physical "I" [15,16]. Being an essential component of the holistic self-perception, transformation of the image of the physical "I" in the situation of the action of the trauma can become serious obstacles blocking the adaptive mechanisms of the personality [17]. In this regard, the study of the features of the image of the physical "I", the patterns of its change in persons who have suffered severe physical injuries and become disabled as a result of them, will provide additional disclosure of psychological mechanisms for adapting them to the new conditions of their life activity, and, therefore, will find effective ways their psychological support [18,19]. Therefore, it is clear that it is necessary to identify the features of the image of the physical "I" in invalids with the defeat of the musculoskeletal system, the relationship of such features with the specifics of their psychological adaptation. This approach will help improve the existing methods of psychological support for this category of disabled people in the process of comprehensive rehabilitation, implemented both in the healthcare of citizens and in the field of social protection of the population.

The aim of the research is to develop and test the author's rehabilitation approach by using a complex of psychological training programs in the rehabilitation of disabled people, due to diseases of the musculoskeletal system and connective tissue.

Materials and methods

The study was approved by the local ethics committee of the

Russian State Social University on September 15, 2016 (protocol No. 9). The experimental group consisted of 45 disabled middle-aged people (21 men and 24 women of middle age $39,7 \pm 2,7$ years). All of them participated in trainings on the program developed by the authors. The control group included 45 subjects of the same age ($37,8 \pm 2,1$ years) and gender (25 men and 20 women). The experimental and control groups were comparable in terms of their adaptation periods.

During the implementation of the rehabilitation program, all the monitored persons monitored self-awareness indicators: the image of the physical self, the level of self-esteem and emotional profiles [20,21].

In the control group, rehabilitation was performed by traditional methods [22]. In the experimental group, the author's rehabilitation program was implemented. This program contained the following complex of interrelated and consistently implemented psychological trainings:

- Training "Self-knowledge and self-development" provides the formation and maintenance of the installation for self-knowledge, self-acceptance and self-improvement. The training consisted of three sessions lasting from 2 to 5 hours. During such studies, the researcher carried out work on himself, on his complexes. As a result of participation in this training, the person realizes and understands his resources - strengths and weaknesses. The training consists of a complex of psychological exercises: "I understand you", "Metaphor", "Compliments", "Self-esteem" and "Interaction". With the help of these exercises, it is possible to realize one's own attractiveness, the adoption of an individual style, and the degree of one's own self-efficacy (one's own potentials and abilities).
- Training "Temporary perspective" was developed and implemented to provide psychological conditions for people who have received severe physical injuries and become disabled to realize their own life and the acceptance and improvement of the physical "I" in the new limited life conditions [23].

This training is implemented in various forms of group and individual. The work carried out in the course of the training is aimed at overcoming the fear of the future, awakening interest in yourself, your appearance, the prospects for your recovery and your resources.

- Dance-expressive training is the basis for creating conditions and opportunities for self-expression of its participants. In the course of this training, so-called "dance therapy" techniques are used: "spontaneous individual and group dance", techniques of "rhythmic group activity", "group synchronization" techniques, psychological reception "Kinesthetic empathy", as well as exercises, "Dancing seated", "Internal clamp", "Armor", "We are different". The use of these techniques in group sessions with people who suffered physical trauma, which resulted in disability, contributed to the realization and acceptance of their physical "I", as well as the various possibilities of their body.
- Training with the use of art-therapy technology was focused on enhancing the processing of the unconscious and experiences that remained beyond consciousness [22]. Art therapy ensures the security of the individual and reduces the level of its resistance to inevitable changes. This training is aimed at developing associative and imaginative thinking, increasing the level of perception through the implementation of blocked perceptual processes. Such trainings reveal not only the general laws of the creative process associated with art, but also the process of creativity of their lives, projecting the unity and interrelation of life and creativity in their works. In the course of such work, the full potential of the individual is used, which is necessary to change and overcome severe stressful situations.
- The training of development of compensatory abilities [24] was carried out during the entire period of the implementation of the integrated program. This training consisted of 36 sessions, lasting from 45 minutes to 1,5 hours, and included exercises on adaptive physical culture with the necessary elements of reflexivity and emotional response.
- Re-training "Temporary perspective".

The data obtained during the study were subjected to statistical processing with the calculation of the arithmetic mean (M), the error of the average value (m), and the application of a standard package of statistical analysis methods.

Research Results and Discussion

Let us examine the results of the study of the dynamics of the change in the image of the physical "I" in the subjects of the experimental and control group (Figure 1).

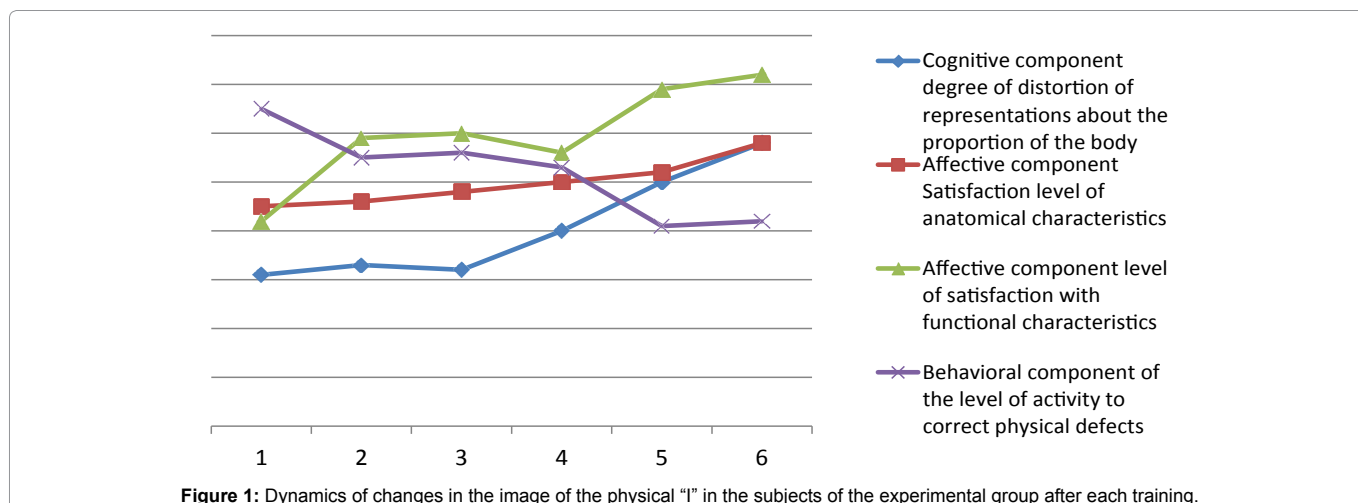


Figure 1: Dynamics of changes in the image of the physical "I" in the subjects of the experimental group after each training.

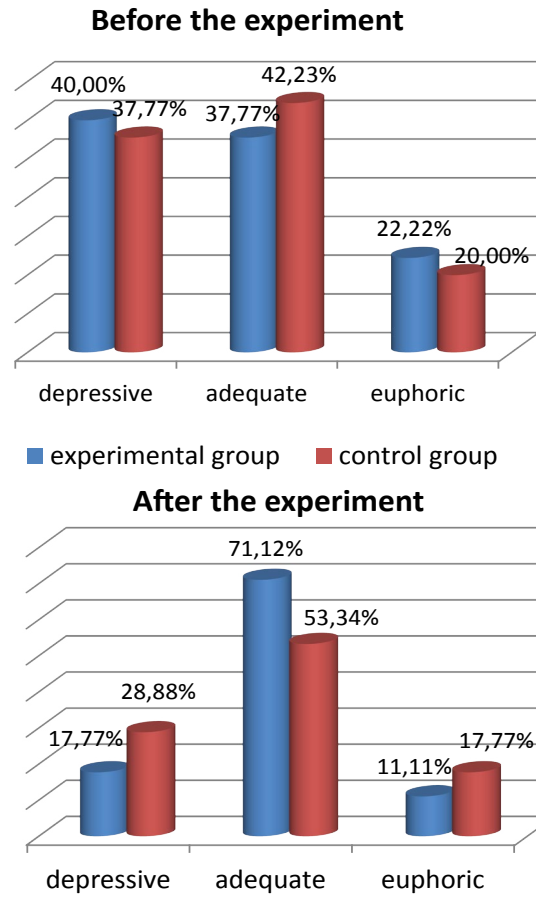


Figure 2: Percentage distributions of the subjects of the two groups according to the level of their self-assessment of the physical "I" before and after the experiment.

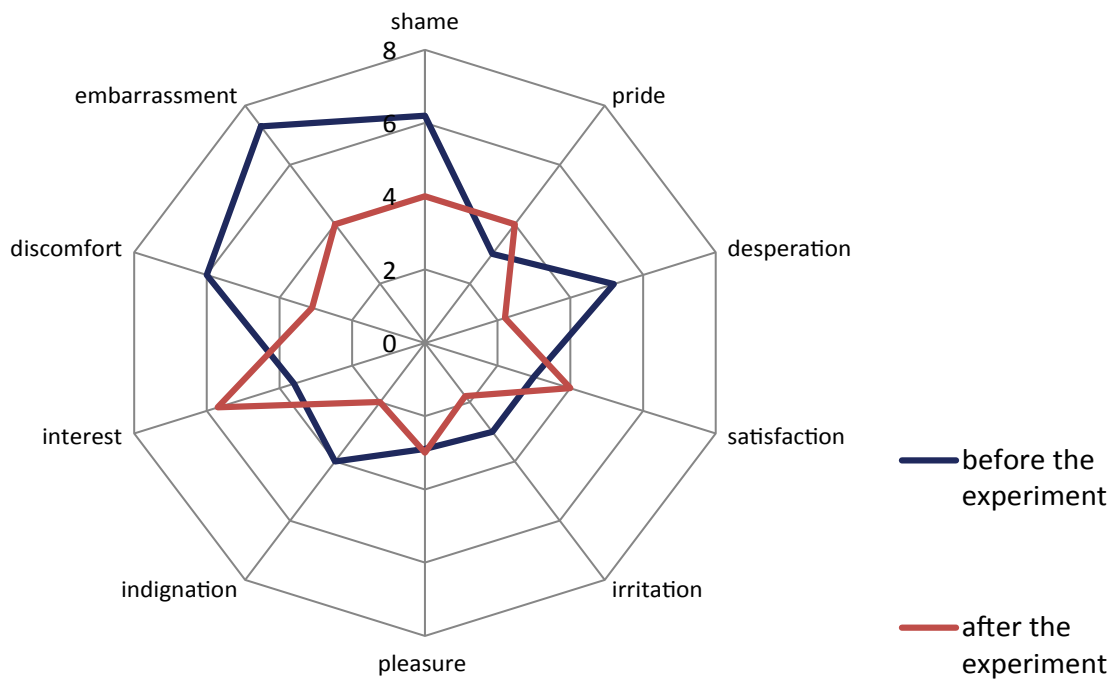
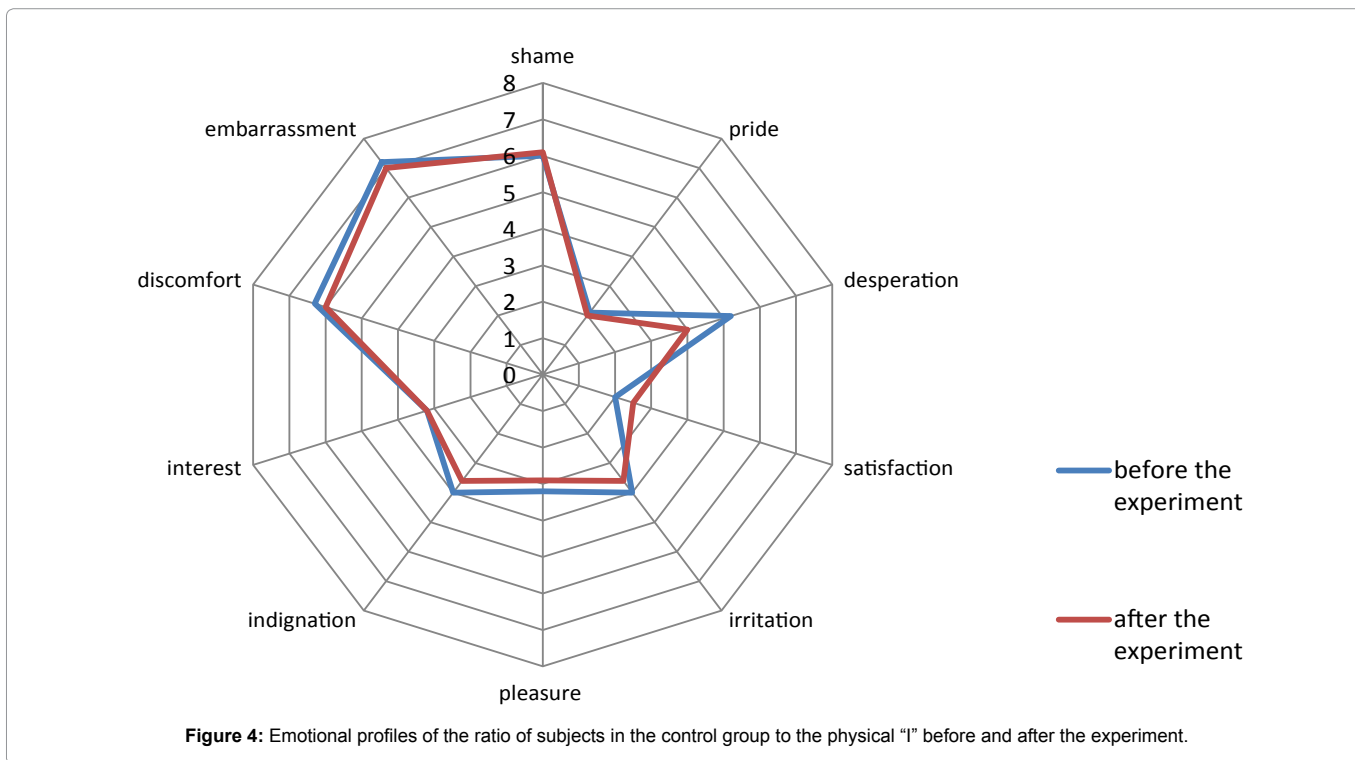


Figure 3: Emotional profiles of the ratio of the experimental group to the physical "I" before and after the experiment.



It can be seen from the graph that the level of distortion of the notions of the physical "I" ($p < 0,05$) decreased in the subjects of the experimental group from training to training, the level of satisfaction with anatomical ($p < 0,05$) and functional ($p < 0,01$) characteristics, the desire to implement actions aimed at changing and correcting physical defects resulting from physical trauma increased.

As a result of the use of trainings for disabled people, it was possible to change the affective component of the image of the physical "I"; in particular their self-assessment of their appearance and their physical capabilities (Figure 2).

If before the trainings the percentage distributions of the subjects of the two research groups in terms of their self-assessment of their external appearance and physical capabilities did not differ from each other at a significant level ($\chi^2 = 0,921, p > 0,05$), then by the end of the experiment an increase in such differences ($\chi^2 = 15,38240, p < 0,05$).

Participation in applied individual and group training encouraged the formation of people with disabilities adequate self-esteem of the physical "I". In the experimental group, the number of subjects characterized by adequate self-esteem increased from 37,77% to 71,12%. In the control group, the recorded increase in persons with adequate self-esteem was less (from 42,20% to 53,34%). It becomes clear that the developed complex of trainings effectively contributes to the development of adequate representations of the disabled person on the image of his physical appearance and physical capabilities and ensures the acceleration of the process of normalizing the attitude towards his physical handicaps.

Figure 3 shows that in the experimental group of negative attitude have decreased and the level of positive emotions caused by ideas about their physical appearance have increased. When calculating the Wilcoxon T-test, it was found that in this group such indicators as "shame", "perturbation", "irritation", "despair" are shifts in the direction of decrease ($p < 0,05-0,001$), and in such groups indicators,

as "interest", "satisfaction", "pride" - in the direction of increase ($p < 0,05-0,001$). In the control group, there were no such shifts (Figure 4). Identified a few differences in the ranks of certain emotions are due primarily to the fact that over time, a negative attitude toward the physical "I" in individuals who have suffered severe physical trauma, is smoothed out, but without a purposeful psychological intervention, it is difficult for such people to change their attitude to those physical. The shortcomings that they received as a result of the transferred trauma [25,26].

Significantly significant differences were found after the implementation of a comprehensive program between the experimental and control groups on indicators of the level of adaptation of subjects. It was revealed that the degree of severity of depressive emotional symptoms towards the end of the experiment decreased to a greater extent in the experimental group. The final measurements of the indicators of interest allowed us to record significant differences at the end of the observation between the experimental and control groups in the health indicators ($t = 3,03, p < 0,01$), activity ($t = 2,66, p < 0,05$), mood ($t = 3,47, p < 0,01$), aggressiveness ($t = 5,45, p < 0,001$), anxiety ($t = 4,16, p < 0,001$) and frustration ($t = 2,78, p < 0,05$), hopes ($t = 4,92, p < 0,001$) and existential performance ($t = 3,39, p < 0,01$).

Thus, in the course of psychological rehabilitation of disabled people with a late defeat of the musculoskeletal system, an effective correction of the image of their physical "I" and a directed formation of a positive attitude toward it are possible.

Conclusion

The defeat of the musculoskeletal system with a violation of the morphological and functional characteristics of a person forms a change in the self-awareness of the individual, in particular distortion of the image of his physical "I". These conditions determine the need for psychological rehabilitation in terms of correcting the psychological status of a disabled person. In the course of rehabilitation, it is

necessary to work with the elimination of the distortion of the person's ideas about his physical self, the provision of his appearance to the personality, the development of the desire to compensate for physical limitations that have arisen after the trauma and neutralize feelings of inferiority. The formation of a positive attitude toward the image of the physical "I" is designed to reduce the level of depression, anxiety, feelings of hopelessness, activation of the person's life plans and her ability to overcome life's difficulties [27]. Achieving the state of adaptation depends on the resources of the person who became disabled as a result of physical trauma and the effectiveness of specially organized psychological influences carried out in the process of implementing trainings aimed at forming a positive attitude to the image of the physical self. In the course of the study, a high efficiency of the complex of trainings in the rehabilitation process was proved: "Self-knowledge and self-development", "Temporary perspective", dance-expressive training, art therapy training and training in the development of compensatory abilities.

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