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## Correction of the image of the physical "I" in people with disabilities with hemiparesis who underwent a hemorrhagic stroke.

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### ABSTRACT

It is known that most of all people with disabilities with hemiparesis are persons who have suffered a stroke that occurred against the background of long-lasting arterial hypertension. The consequence of disability is a severe long crisis of personal development, which requires from it huge internal efforts to restore the processes of interaction with other people and with society as a whole. The development of hemiparesis necessarily entails serious disturbances in the morphological and functional indices of a person, which changes the image of his physical "I" from him. For this reason, an important moment in the correction of the psychological parameters of a disabled person is the removal of the distortion of his opinion about the state of his physical self, the creation of conditions for his acceptance of his condition, the development of a desire to compensate his physical capabilities that have arisen after a stroke and minimize the sense of his inferiority. The development of a positive attitude toward the image of the physical "I" should reduce the severity of depression, anxiety, a sense of hopelessness, stimulate the person's life plans and direct it to overcome existing life difficulties. The severity of adaptation strongly depends on the personality of the disabled person with hemiparesis due to stroke and on the effectiveness of individual psychological influences conducted during the series of trainings that provide the conditions for the formation of a positive attitude to the image of the physical "I". The effectiveness of the use of the complex of trainings: "Self-knowledge and self-development", dance-expressive training, "Temporary perspective", training of art therapy and training of expansion of compensatory possibilities are established.

**Keywords:** invalids, hemiparesis, stroke, self-perception, physical condition.

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## INTRODUCTION

The dynamics of the development of medical science still, unfortunately, cannot provide a significant reduction in the prevalence of somatic pathology in society [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 [7-9]. At the same time, despite the rather high occurrence of pathology of internal organs in humans, it does not always lead to disability [10, 11]. Much more often disability occurs in hemiparesis due to stroke [3].

According to statistics, a large proportion of people with disabilities are people who have suffered a stroke, which resulted in paresis and paralysis [12]. 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 [13].

Many researchers in the field of rehabilitation of people who have lost the ability to move and self-service, emphasize that hemiparesis causes adaptation disorders, accompanied by anxious and depressive reactions. This makes it necessary to study the adaptation mechanisms determined by the psychological characteristics of the personality of the disabled [14, 15].

The defeat of the persistent hemiparesis 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" [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 stroke 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 stroke and become disabled as a result of him, 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 hemiparesis after a stroke, 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 study is to develop and test a version of psychological adaptation for people with hemiparesis due to a stroke.

## MATERIALS AND METHODS OF A RESEARCH

The study was approved by the local ethics committee of the Russian State Social University on September 15, 2016 (protocol № 9). The experimental group consisted of 39 invalids of the second mature age with hemiparesis, which arose as a result of a hemorrhagic stroke about six months ago (25 men and 14 women, whose average age is  $49.2 \pm 2.9$  years). All of them participated in trainings on the program developed by the authors. The control group included 42 subjects of the same age ( $47.7 \pm 2.3$  years) and gender (23 men and 19 women) with hemiparesis, which arose as a result of hemorrhagic stroke about six months ago. The experimental and control groups were comparable in terms of their existing diseases and 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 conducted for 6 months by traditional methods [22]. In the experimental group within 6 months, the author's rehabilitation program was implemented. This program contained the following complex of interrelated and consistently implemented psychological trainings:

1. 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", "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).

2. 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.

3. 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.

4. 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.

5. 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.

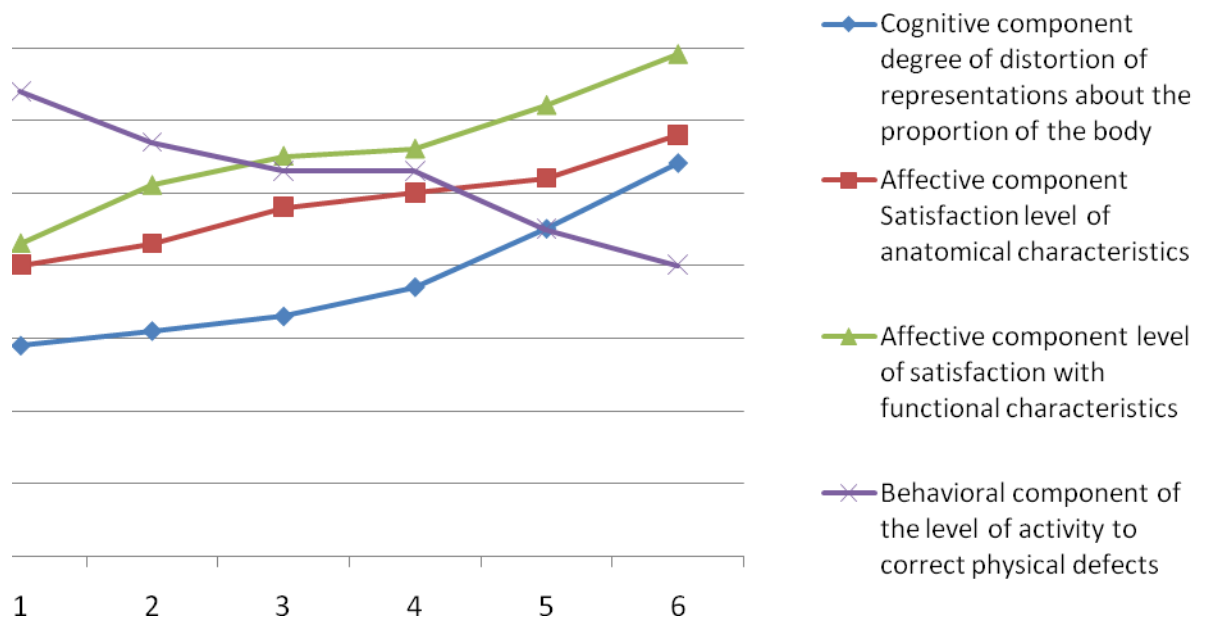
6. Re-training "Temporary perspective".

The duration of each training was at least 1 month. The total rehabilitation time in the experimental group was at least 6 months. The control of the condition in the control and experimental groups was carried out at the end and then every month until the end of the rehabilitation.

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.

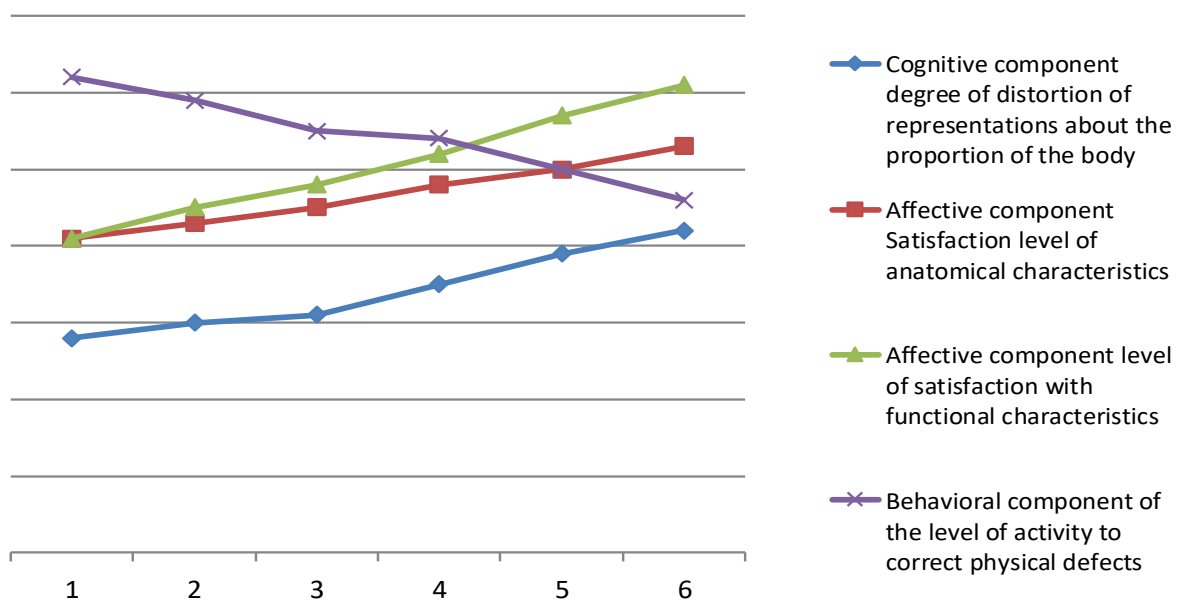
## RESEARCH RESULTS AND DISCUSSION

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 and Figure 2).



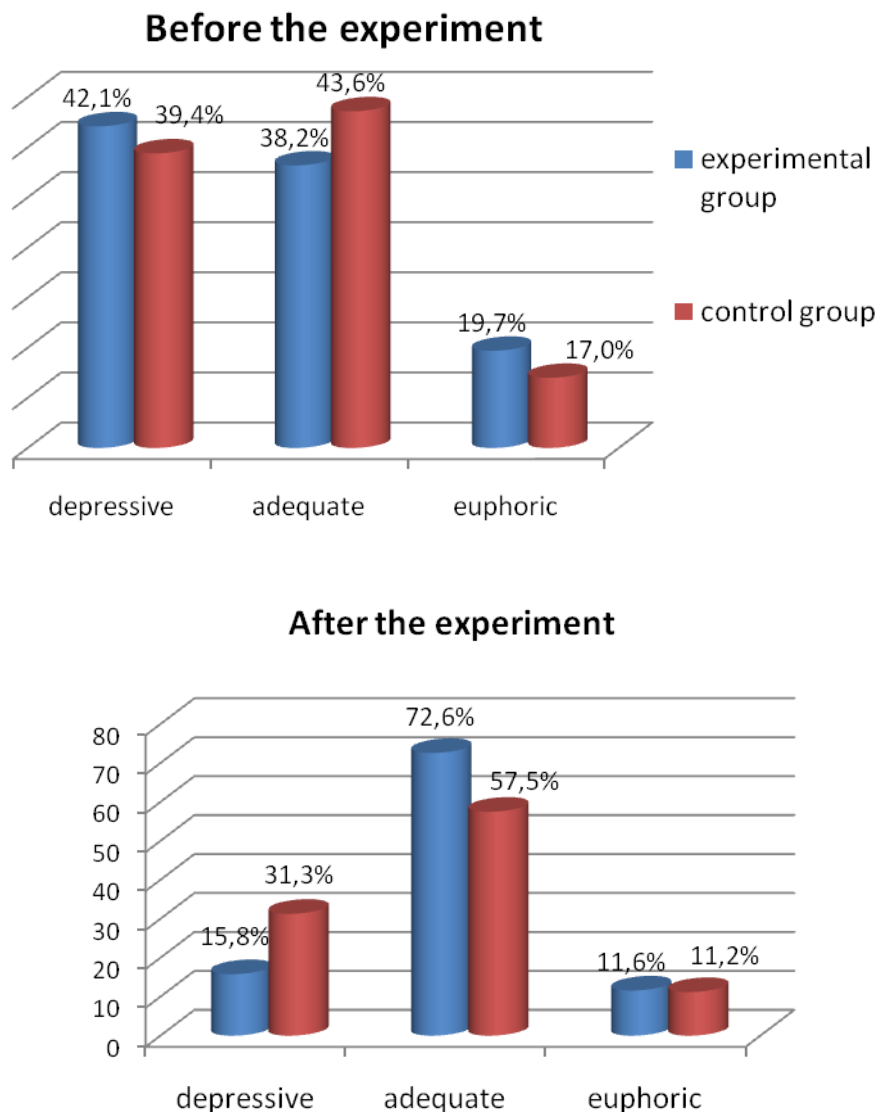
**Figure 1: Dynamics of changes in the image of the physical "I" in the subjects of the experimental group after each training**

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 hemiparesis increased.



**Figure 2: Dynamics of changes in the image of the physical "I" in the subjects of the control group after each training.**

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 3).



**Figure 3: 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.**

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 ( $\chi^2 = 0,937, p > 0,05$ ), then by the end of the experiment an increase in such differences ( $\chi^2 = 15,474, p < 0,05$ ).

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 38,2% to 72,6%. In the control group, the recorded increase in persons with adequate self-esteem was less (from 43,6% to 57,5%). 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 [25,26].

Figure 4 shows that in the experimental group the negative attitude has decreased and the level of positive emotions caused by ideas about their physical appearance has 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 (Figure5). 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 stroke with development of hemiparesis, 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 stroke[27, 28].

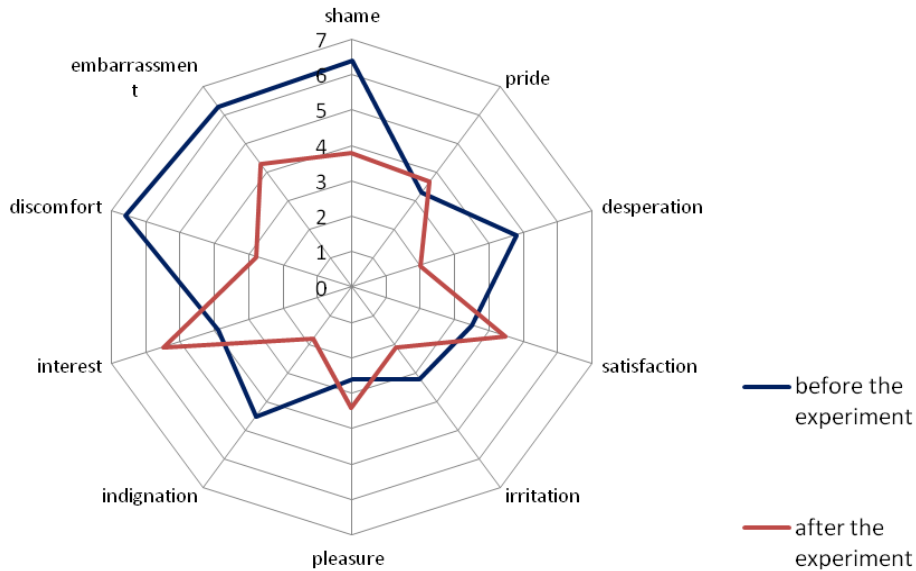


Figure 4: Emotional profiles of the ratio of the experimental group to the physical "I" before and after the experiment.

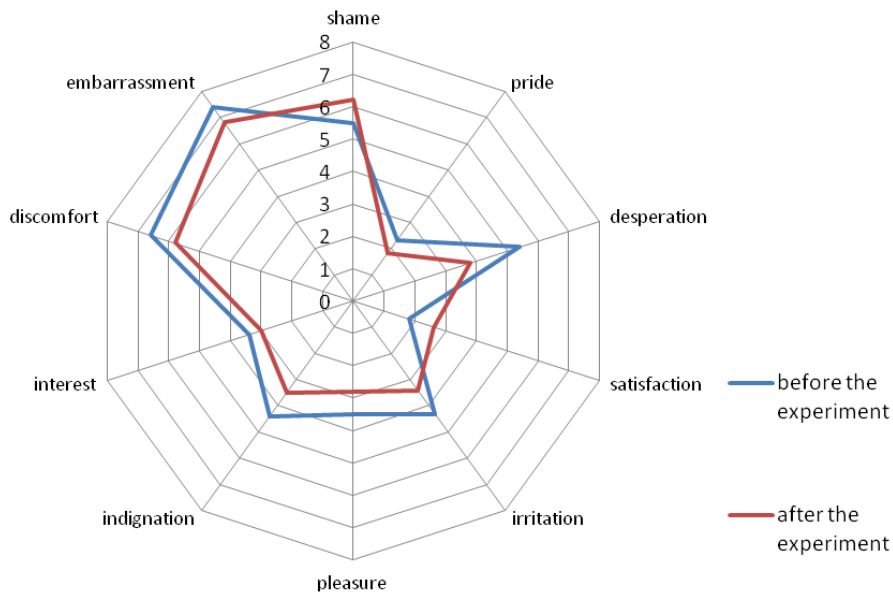


Figure 5: Emotional profiles of the ratio of subjects in the control group to the physical "I" before and after the experiment

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 [29,30]. 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 [31-33]. 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 ( $t = 3,11, p < 0,01$ ), activity ( $t = 2,57, p < 0,05$ ), mood ( $t = 3,48, p < 0,01$ ), aggressiveness ( $t = 5,36, p < 0,001$ ), anxiety ( $t = 4,23, p < 0,001$ ) and frustration ( $t = 2,79, p < 0,05$ ), hopes ( $t = 4,87, p < 0,001$ ) and existential performance ( $t = 3,45, p < 0,01$ ).

Thus, in the course of rehabilitation of people with disabilities with hemiparesis, which developed as a result of a stroke, 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 hemiparesis 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 stroke 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 [34,35]. Achieving the state of adaptation depends on the resources of the person who became disabled as a result of stroke 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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