

Розділ: Психологія здоров'я та клінічна психологія

УДК 159.9.072.4:616.831-053.67

Functional changes in psychological status after corrective influence on adolescents with mental and physical disturbances (ICP)

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Priority task in the rehabilitation of adolescents with limited abilities is to create favorable conditions for their social adaptation. This category of adolescents is especially needed in timely detection of inherent defects and realizing the potential possibilities of their psychological development with psychological-educational means. [1]

Over the last decades the problems of cerebral palsy are the object of study of many researchers. However, such category as adolescents with cerebral palsy, especially teenagers with severe motor disorders, have been insufficiently studied. Adolescents with such disorders are usually attributed to the group with severe developmental disabilities. There is a need to study adolescents whose severe motor disturbances are combined with impaired visual perception and the development of special rehabilitative programs that consider individual physical and intellectual capabilities [2,3]. In the generally accepted principles of correctional work, we are proposing to include several important additions: using of intact forms of thinking that will be needed in the future to solve the problem focused on success; initiation of visualization process in adolescents in situations where because of the existing motor disorders appear difficulties in movement in the surrounding space.

Key words: adolescents with ICP, visual perception, computer stimulation of images, «lets draw a day», symboldrama, «nonexistent animal», Student's t-test. Приоритетной задачей в реабилитации подростков с ограниченными возможностями является создание благоприятных условий для их социальной адаптации. Эта категория подростков особенно нуждается в своевременном выявлении присущих им дефектов и реализации потенциальных возможностей их психического развития психолого-педагогическими средствами [1].

На протяжении последних десятилетий проблемы детского церебрального паралича являются объектом изучения многих исследователей. Однако такая категория, как подростки с детским церебральным параличом, особенно подростки с тяжелыми формами двигательных нарушений, изучены недостаточно. Подростков с подобными нарушениями принято относить к группе имеющих тяжелое отклонение в развитии. Существует необходимость изучения подростков, у которых тяжелые двигательные нарушения сочетаются с нарушениями визуального восприятия и в разработке специальных коррекционных программ, учитывающих индивидуальные физические и интеллектуальные возможности [2,3]. В общепризнанные принципы коррекционной работы мы предлагаем внести несколько важных дополнений: использование неповрежденных форм мышления, которые в дальнейшем будут необходимы для решения целенаправленной задачи по достижению успеха; инициация процесса визуализации у подростка в ситуациях, когда из-за имеющихся двигательных нарушений возникают трудности передвижения в окружающем пространстве.

Ключевые слова: подростки с ДЦП, зрительное восприятие, компьютерная стимуляция изображений, «нарисуем день», символдрама, «несуществующие животное», критерий Стьюдента.

Пріоритетним завданням в реабілітації підлітків з обмеженими можливостями є створення сприятливих умов для їх соціальної адаптації. Ця категорія підлітків особливо потребує своєчасному виявленні притаманних їм дефектів і реалізації потенційних можливостей їх психічного розвитку психолого-педагогічними засобами [1].

Протягом останніх десятиліть проблеми дитячого церебрального паралічу є об'єктом вивчення багатьох дослідників. Однак така категорія, як підлітки з дитячим церебральним паралічем, особливо підлітки з важкими формами рухових порушень, вивчені недостатньо. Підлітків з подібними порушеннями прийнято відносити до групи що мають важке відхилення в розвитку. Існує необхідність вивчення підлітків, у яких важкі рухові порушення поєднуються з порушеннями візуального сприйняття і в розробці спеціальних корекційних програм, що враховують індивідуальні фізичні та інтелектуальні можливості [2,3]. У загально визнані принципи корекційної роботи ми пропонуємо внести кілька важливих доповнень: використання непошкоджених форм мислення, які в подальшому будуть необхідні для вирішення цілеспрямованої завдання по досягненню успіху; ініціація процесу візуалізації у підлітка в ситуаціях, коли через наявні рухових порушень виникають труднощі пересування в навколишньому просторі.

Ключові слова: підлітки з ДЦП, зорове сприймання, комп'ютерна стимуляція зображень, «намалюємо день», символдрама, «неіснуючі тварина», критерій Стьюдента.

Problemstatement. Psychological correction is an important link in the system of psychological help to adolescents with ICP, and clearly built model of correctional work, during which work is carried out simultaneously in the «outside world - teenager» enables adolescents with mental and physical disorders increasingly use their own resources in promoting self-development and their socialization and overcome personal problems.

The last researches and publications analysis.

Analysis of medical and psychological literature has shown that one of the main problems of the rehabilitation of adolescents with cerebral palsy is that teenage neurological invalidity, unlike an adult invalidity, has no gradations in severity of the disease. This disease is almost not reviewed any complications depending on the state of a teenager or in connection with the positive dynamics of improvement, being, in fact, a life "label" that creates sustainable public opinion about the irreversibility of accomplished changes in the CNS, and hence - disbelief in the possibility of adolescents with disabilities. [4]

It is worth mentioning that mental retardation in adolescents with ICP is a reversible condition and lends itself to a significant correction [5].

The purpose of the article: Identify changes in the psychological status of adolescents with ICP after using correctional program.

Exposition of basic material.

The main purpose of psychocorrection is to fix of existing violations in the mental development of adolescents, the harmonization of their personality, as well as prevention of abnormalities in the development, due to both internal specifics of mental disorders, and environmental factors. Accounting for developmental models suggests two main directions in psychocorrection:

- the first is a return to the early ontogenetic stages of mental and physical development, activation of these processes with a help of previously unused reserves;
- the second is the focus on the nearest level of adolescent development. The second area involves the stimulation of older adolescents with ICP person and includes the development of their self-esteem, self-respect, an adequate attitude to their physical defect.

The proposed model of psychocorrectional work consists of three main parts: diagnostic, consulting and correctional.

Developed research methods and the results of work have been implemented in practice of Odessa children's specialized clinical sanatorium "Hadzhibey". To implement the diagnostic, consulting and psychological correctional parts of system correctional work we entered the author's method, which is way of organizing the activities. In this work this method is called a "session", which includes diagnostic and corrective exercises, observation, and means (tool) to achieve the intended objectives are images. By this method, we obtain the necessary information about the adolescent, as well as the relations in the system "teenager - society." Diagnostic exercises are aimed at identifying violations of the thinking process (synthesis) in adolescents with mental and physical disorders and in a state of norm. Corrective exercises are performed only on the condition of the entire spectrum of diagnostic and consultation procedures.

During the "session" there is a direct interaction between a psychologist and a teenager in the form of experiential learning. In our work in conjunction with the use of method described above, a "session" in the system of psycho-diagnostic and of correctional work is used the method of stimulation of the image (with allocation of one or more objects). Background images stimulation method «C.S.I.» («Computer simulation images» by Kirillov D.V.) is realize by a complex of computer images, which serve as a background for moving objects. During correcting session teenager captures various objects using their allocation, stimulating the activity of the affected or involved parts of the CNS, and the background moving images, in turn, have a stimulating effect, energizing "motion channel" of space-contrast sensitivity.

The duration of correcting session is 15-20 minutes; number of sessions: 10-15. We have developed and put into practice as a correctional criterion method «L.D.D» («Lets Draw a Day»), which is aimed to substitute the emotional setting and on the one hand is the opposite with respect to the «inferiority complex», and on the other - promotes the formation in the mind of a teenager positive prospects for the further implementation of the basic necessities of life. Removing both external and internal autopsychological obstacles on the way to the implementation of these requirements, we thus eliminate basic beginnings, that make adolescent mention pathological and neurotized and create a favorable ground for further targeted self-help personality. Study with teenagers in norm or rate performed individually and in groups on the basis of two medium-educational schools of Odessa number 13 and number 73. Time of performance: from 14.00 to 16.00. All subjects, were informed about the aims and objectives of the research on the detection of violations of the synthesis and spatial perception.

As a tool to determine a statistically significant difference was chosen Student's t-test to establish or refute the differences between the mean values of the experimental and control groups at this level of significance. For the chosen significance level $\alpha = 0,01$ we find the critical table value $t_{cr} = 2,59$

Table 1

Results of the study of psychological-diagnosical and correctional work by the author's method «C.S.I» (n=401)

Scale	Mean		t - cr.	Value(p)	Number		Statistical deviations	
	ICP	norm			ICP	norm	ICP	norm
Depressiveness before / after	58	17	5,42	0,99	201	200	0,56	0,93
	35		2,68				-	
Neuroticism before / after	48	35	2,92	0,99	201	200	0,57	0,68
	40		0,62				-	
Reactive aggression before / after	50	29	2,64	0,99	201	200	0,58	0,74
	42		1,68				-	
Spontaneous aggression before / after	41	25	2,15	0,99	201	200	0,58	0,86
	34		1,25				-	
Personal anxiety before / after	45	32	1,63	0,99	201	200	0,70	0,75
	35		0,38				-	
Internal discomfort before / after	31	65	2,09	0,99	201	200	0,63	0,50
	40		2,90				-	
Autistic before / after	65	26	4,75	0,99	201	200	0,81	0,90
	55		2,95				-	

From the analysis of table 1, there results that after the correction mean value improved in each of the seven studied parameters (scales). And by using these changes in our opinion can be obtained a more complete assessment of the emotional state of adolescents with ICP and in norm. The obtained value of t-test -3,085 indicates that the differences between the groups are statistically significant at this level of probability. When comparing the values of the mean for each of the selected scales is monitored positive dynamics for adolescents with psychophysical disturbances (ICP), and for adolescents in a state of norm. Thus, we see the approach of the indicators to the norm.

Table 2

Results of the study of psychological-diagnosical and correctional work by the author's method «C.S.I» (n=401)

Scale	Mean		t - cr.	Value (p)	Number		Statistical deviations	
	ICP	norm			ICP	norm	ICP	norm
Depressiveness	60	19	5,30	0,99	201	200	0,71	0,92
	36		2,47				-	
Anxiety	52	28	3,01	0,99	201	200	0,64	0,81
	40		1,58				-	

From the analysis of Table 2 shows that adolescents with ICP at the beginning of research demonstrated tension and emotional liability, imbalance and a tendency to hysteroid or depressive reactions. During the implementation of the method in the respondents was identified inertness or «viscosity of thinking.» The respondents were not able to classify image, which appeared to them a single copy and were not able to switch to another image. We can assume that this feeling of their own inferiority and imperfection led to an unconscious person care protective reaction to a lower infantile level with sharpening of egocentric traits. In this regard a very important moment for the psychologist on the second and third stages of the work with such adolescents in our view is to identify intact forms of thinking that will be needed in the future to solve the problem focused on success during the remedial exercises. To increase the effectiveness of interventions for medical-psychological-pedagogical correction at these stages should actively engage teachers and medical staff and to explain to them the aims and objectives of this work, as well as to develop a common tactic of therapeutic effect on the behavior of adolescents with ICP.

In adolescents in a state of norm allocated slight increase the level of anxiety that most likely indicates the presence of special state during the research and cannot be treated by us as a property of the individual.

This applies to the individual features that are the increased tendency to experience anxiety in different life situations, including those in which objective characteristics do not predispose to it. After the group discussion results of the method with adolescents in the state of norm they were asked to pass it again. State

of anxiety after correction was significantly reduced both by changing the setting and the reevaluation of own achievements while discussing the results of diagnostic research.

Conclusions

1. Usage of the method «C.S.I» («Computer simulation images») helps to improve spatial perception due to excitation of "motion channel", and at the same time, the use of moving objects on the screen stimulates the formation process of generalization.

2. Usage of the method «L.D.D» («Lets Draw a Day») for the analysis of the level of perception and synthesis with a help of a set of images can be identified and in the future change the process of adaptation, self-identity of respondents with central nervous system pathology and without it. Experimental data suggest high dependence defective, and in some cases and distorted perception of objects of the world, the state of the damaged and involved parts of the CNS in the respondents. The complexity and eccentricity of disturbances in the areas of thinking and perception at lesions of the CNS, the presence of abnormalities in higher mental activity, as well as violations without CNS pathology cause the necessity of corrective use program («L.D.D», «Lets Draw a Day») in the psychological, educational, medical and social rehabilitation of adolescents with ICP.

3. In adolescents without developmental disorders, we revealed increasing the level of anxiety, which may be indicative of its lack of emotional adaptation to the different social situations. This creates a common setting for self-doubt. After the correction this indicator has been significantly reduced.

Thus, we have proved the clinical effectiveness of the used method and chosen a direction for further development of correcting influence programs that must be, used in medical and psychological rehabilitation of adolescents with CNS pathology as well as in its absence.

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