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PSYCHOSOMATIC STATE AND PERSONAL CHARACTERISTICS OF CHILDREN AND ADOLESCENTS OF THE UZBEK POPULATION FOR MANIFESTATIONS AND DEVELOPMENT OF NEUROCIRCULATORY DYSTONIA

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Abstract.

The relevance of studying the personality characteristics of children with vegetovascular dystonia (VVD) is dictated by the fact that many psychosomatic disorders originate in childhood and autonomic disorders are their primary manifestations. According to the literature, among the children with non-communicable diseases who go to the doctor, 50-75% are patients with VVD. Purpose of the study. Study of the influence of the mental state and personality characteristics of patients on the manifestations and development of NCD in children and adolescents of the Uzbek population. Material and methods. We studied 43 patients with NCD (18 boys and 25 girls) aged 7 to 16 years with hypotonic, hypertensive and cardiac types. In the examined group of patients with NCD, children with hypertensive (46.5%) type prevailed. Patients (39.5%) were diagnosed with hypotonic NCD, and in 14 patients with cardiac type. For the study of individual - typological and personal characteristics of children, in addition to clinical and pedagogical observations, traditional experimental - psychological methods were used, allowing the most differentiated approach to the analysis of the personality of a sick child. Results: patients with NCD are characterized by a pronounced increase in emotional stress, difficulty in making interpersonal contacts and contributing to the violation of the psycho-vegetative regulation of the individual. The predominance of the desire for well-mannered forms of behavior, combined with conscious self-control, prevents the reaction of negative emotions, which contributed to the long-term preservation of emotional stress and further difficulties in adaptation. Patients with NCD usually had combinations of disharmonious personality traits, which led to the appearance of intrapsychic conflicts between dominant and mutually exclusive types of needs. The actual mental state of children with NDC determined by the Kettell method as a whole manifests itself as a personality of a highly neurotic response, which confirms the connection between NDC and personality traits. Conclusions: These intrapsychic conflicts underlay violations of social adaptation in the school and family spheres, and also prevented psycho-vegetative adaptation, which manifested itself in psychopathological and vegetative-somatic disorders in this disease.

Key words: neurocirculatory dystonia, adolescents, psychosomatics.

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Introduction.

Cardiovascular diseases consistently occupy the first place in the structure of morbidity and mortality worldwide. Currently, the emphasis in the study of cardiovascular diseases has been shifted to childhood [1, 2, 3, 4]. The ever-increasing prevalence of cardiovascular diseases depends on many factors. In the first place are socio-economic factors: the development of modern civilization, which has dramatically restructured the way of life of people due to the increase in the population of cities, the introduction of electricity and household chemicals, the intensification of labor processes, the complication of curricula, information overload, transport difficulties, changed nutrition and other psychosocial stress.

The hereditary predisposition to diseases of the circulatory organs is also important, but it cannot be considered as the main cause, since a sharp increase in morbidity and mortality from these diseases occurred in such a short period of time during which genetic changes are impossible in humans [5, 6, 7]. These hazards affect the personality and body of the child and adolescent. Due to difficult everyday circumstances, the activity of the nervous system, its autonomic department, which is responsible for the joint, coordinated activity of organs and systems of the whole organism, is often upset in children. Violation of autonomic regulation can manifest itself in the form of vegetative-vascular dystonia (VVD). The essence of VVD is that the primary pathological changes do not occur in the "target organ", but in the apparatus of its nervous regulation. Psychosomatic relations are

violated - the connection of mental phenomena, the adaptive activity of the autonomic nervous and humoral systems with the functional activity of the cardiovascular system. According to the literature, among children with non-communicable diseases who visit a doctor, 50-75% are patients with VVD [4]. The relevance of studying the personality characteristics of children with VVD is dictated by the fact that many psychosomatic disorders (ischemic and hypertension diseases, bronchial asthma, gastric ulcer and 12 p.c., neurodermatitis, etc.) originate in childhood and their primary manifestations are vegetative disorders. Neurocirculatory dystonia (NCD) is a variant of VVD, manifested mainly by disorders of the cardiovascular system. In some cases, an increase predominates, in others - a decrease in blood pressure, and thirdly - the regulation of the activity of the heart is disturbed.

Purpose of the study. Study of the influence of the mental state and personality characteristics of patients on the manifestations and development of NCD in children and adolescents of the Uzbek population.

Material and methods. We studied 43 patients with NCD (18 boys and 25 girls) aged 7 to 16 years with hypotonic, hypertensive and cardiac types.

In the examined group of patients with NCD, children with hypertensive (46.5%) type prevailed. Patients (39.5%) were diagnosed with hypotonic NCD, and in 14 patients with cardiac type. For the study of individual - typological and personal characteristics of children, in addition to clinical and pedagogical observations, traditional experimental - psychological methods were used, allowing the most differentiated approach to the analysis of the personality of a sick child [6, 7, 8, 9, 10]:

1. Examination and observation of the behavior of children in the experimental situation in order to identify the features of the emotional-volitional sphere;

2. Schwanzer's partially standardized diagnostic interview - conversation;

3. Pathocharacterological diagnostic questionnaire (PDO) - for children and adolescents from 10 to 18 years old;

4. Study of self-esteem by the Dembo-Rubinstein method;

5. Children's version of the Cattell personality questionnaire for children from 8 to 12 years old;

6. Children's version of the Eysenck personality questionnaire for children;

7. Projective methods of personality research;

a) Rosenzweig picture frustration (stress) test for children and adolescents; b) Rorschach tests;

8. Standard questionnaire-characteristics for a child (filled in by a teacher and parents;

9. Identification of the characteristics of the microsocial environment - families and schools;

10. Conducting an ECG study (in 12 standard leads), echoencephalography, rheoencephalography, etc.;

11. Measurement of blood pressure, diastolic blood pressure, counting the pulse rate;

12. Study of vegetative homeostasis (vegetative tone, reactivity, security). In addition to these studies, conventional clinical methods were used (general blood count, urine, feces, chest and skull radiography), biochemical methods with the determination of total protein, residual nitrogen, urea, potassium and calcium in blood serum, rheumatic tests. Specialist consultations (psychiatrist, psychoneurologist, endocrinologist, cardiorheumatologist, traumatologist). An objective study of children was carried out in a children's hospital using generally accepted methods - examination, palpation, percussion, auscultation. The results of the study were subjected to variational-statistical processing: mean values (X), standard deviation (T) and its errors (+m), testing hypotheses from the normal distribution were tested by Student's t-test. Correlation and variance analysis was carried out according to the program. The centile distribution of personal factors indicators was calculated using a mathematical algorithm. Results. From the data presented in Table No. 1, it follows that patients with NCD in general are significantly extraverted (17.3 ± 0.6 and 16.7 ± 0.4, $P < 0.001$), which makes it possible to characterize them as more sociable, active and prone to leadership. For hypotonic and cardiac types, the increase in sociability was not significant ($P>0.05$). Patients with NCD of the hypotonic type are characterized by depressed mood or apathy. Most children are disturbed by obsessive fears for somatic health, they consider themselves seriously ill. A high degree of anxiety is characteristic of both children with hypertonic, hypotonic, and cardiac types

of NCD. Patients with the cardiac type of NCD were characterized by a sharp weakening of physical and intellectual performance, as well as phobias related to confined spaces, driving in transport, crowds, and heights.Among the psychopathological manifestations, cardialgia and other unpleasant sensations in the region of the heart occurred constantly (P<0.05) and were the most significant for a patient with a cardiac type of NCD. A high rate of psycho-emotional instability in patients (15 ± 0.8 and 16.6 ± 0.6 P < 0.001 in boys and girls) indicates an increased level of anxiety and neuroticism. Patients with NCD are irritable or tense. Often dissatisfied with their surroundings. The hypertonic type is characterized by a high sense of responsibility and intensity. More than half of the patients show signs of neuropathy.

The actual mental state of children with NDC determined by the Kettell method as a whole manifests itself as a personality of a highly neurotic response, which confirms the connection between NDC and personality traits (Table 1). 2.

Table 1

Average scores of indicators (in points) according to the Eysenck questionnaire in children of the control group and patients with NCD.

Indicators	Standardization data		NCD		Hyper. type.	Hypothesi s. type.	Card. type
	boys	girls	boys	girls			
extraversion introversion	15,1 ± 0,4	14,3 ±0,4	17,3± 0,6*	16,7± 0,4*	17,6 ±0,4*	16,4 ±0,7	15,6 ± 0,9
neuroticism	12,6± 0,5	13,3 ±0,5	15± 0,8*	16,6 ±0,6*	17,0 ± 0,7*	15,7 ±1,5	15,8 ± 1,4
	The data are statistically significant (P < 0.05 - 0.001) compared with healthy children.						

In the group of patients with NCD, the most characteristic were mild and frequent occurrence of unmotivated anxiety, mood swings, subdepressive episodes in premorbidity. Mild vulnerability and sensitivity are indicated by a decrease in factor C (3.2±0.5 and 2.7±0.4; P<0.001). They are also distinguished by pronounced incredulity, resentment, aggressiveness, persistence in achieving the goal and ambitious aspirations (the rise of the “E” factor 6.1±0.3 and 6.6±0.4, P<0.05). A decrease in the “H” factor (3.2 ± 0.3 and 1.6 ± 0.4 in boys and girls, P<0.001) reflects the presence of high self-doubt, a tendency to constant doubts when making decisions, to the formation of obsession, a decrease entrepreneurial spirit and energy. Dissatisfaction with the situation, one’s behavior in it, and high tension of unreacted urges were reflected in the rise of Q and Q3 factors (6.8±0.3 and 7.04±0.15; P<0.001 6.8±0.4 and 6, 9±0.3; P<0.001 in boys and girls, respectively). In general, patients with NCD are characterized by a pronounced increase in emotional stress, difficulty in making interpersonal contacts and contributing to the disruption of the psycho-vegetative regulation of the individual. The predominance of the desire for well-mannered forms of behavior in combination with conscious self-control (increased factors I and Q3 (7.1 ± 0.6 and 7.0 ± 0.5) prevents the response of negative emotions, which contributed to the long-term preservation of emotional stress and further difficulties in adaptation. Patients with NCD usually had combinations of disharmonious personality traits, which led to the appearance of intrapsychic conflicts between dominant and mutually exclusive types of needs.

Table № 2.

Mean values of personality factors Kettel in patients with NCD (M±m).

Survey group.	Floor	Factors of personality traits A	B	C	D	E	F	G	H	I	Q	Q_3	Q_4
NDC Data.	boys (18)	7,4 ±0,4*	4,7 ±0,4	3,2 ±0,5	2,2* ±0,2	6,1 ±0,3*	6,3 ±0,4*	5,1 ±0,2	3,2 ±0,3*	7,1 ±0,6	6,8 ±0,3*	7,5 ±0,2*	6,8 ±0,4*
	girls (25)	6,8 ±0,2*	5,4 ±0,2	3,3 ±0,4*	2,7 ±0,4	6,6 ±0,4*	7,2 ±0,3*	5,0 ±0,15	1,6* ±0,4	7,0 ±0,5	7,04 ±0,15*	7,1 ±0,2*	6,9 ±0,3*
std.	boys	6,0 ±0,4	5,0 ±0,27	4,3 ±0,42	4,2 ±0,13	3,64 ±0,35	4,64 ±0,25	4,7 ±0,15	5,5 ±0,27	5,6 ±0,3	4,6 ±0,26	5,48 ±0,2	4,0 ±0,3
	girls	6,0 ±0,3	5,4 ±0,29	3,9 ±0,9	2,8 ±0,42	3,0 ±0,48	3,0 ±0,3	5,7 ±0,16	5,4 ±0,23	5,4 ±0,2	4,9 ±0,27	6,1 ±0,42	4,1 ±0,3

Those marked with an asterisk * are statistically significant (P>0.05-0.001).

These intrapsychic conflicts underlay violations of social adaptation in the school and family spheres, and also prevented psycho-vegetative adaptation, which manifested itself in psychopathological and vegetative-somatic disorders in this disease.

Comparison of the average profile of individuals with NCD and the control group revealed significant differences. The average profile of the group of people with NCD

differs from the average profile of the control group in features that reflect higher anxiety (factor «Q 6.8±0.3 and 7.04±0.15; P<0.01), which is accompanied by a tendency to the emergence of unpleasant somatic sensations, a more pessimistic coloring of perspective and great rigidity. According to F.B. Berezin et al (18), due to this rigidity, once the affect of anxiety has arisen, it does not fade for a long time. Apparently, this circumstance can contribute to the repetition of anxious reactions. The above profile features were combined with signs indicating a relatively high level of tension, irritability and frustration (high Q4 6.8 ± 0.4 and 6.9 ± 0.3; P < 0.001. Decreased mood and anxious affect in NCD patients were significantly to a greater extent than in healthy people, could disrupt adaptation to the immediate social environment, which is reflected by deep “dips” of the curve (factors “H” 3.2 ± 0.3 and 1.6 ± 0.4; “C” 3.2 ± 0.5 and 3.3±0.4 P>0.05) profile.

An increase in activity and readiness for action is reflected to a greater extent on the profile curve by «peaks» (factors «E» and «F».) Thus, in patients with NCD, conflicts between the need to be in the center of attention of others (rising factors (A , E, E, F), the desire to focus on non-conformal, special internal criteria of behavior, conflicts between selfish and altruistic motives, emotional immaturity (factors «H» and «I»), demonstrativeness, weakness of mental «delays» and ambitious attitudes that are especially significant for the individual («E», «G»).

The peculiarity of the reaction to frustration depends on the nature of the individual development of the subject, which in turn is based on a combination of certain genetic premises and social factors. This reaction seems to be based on two factors. On the one hand, these are the features of mental response associated with the personal characteristics of the subject, on the other hand, there are special relationships between two aspects of response: mental and vegetative. Finally, it is possible that a combination of both of these moments is necessary for the emergence of NDC. We conducted a study of the considered possibilities of reaction to frustration in sick children with NCD. Variants of psycho-emotional response to frustration in patients with NCD and healthy people significantly differed (Table 3).

In children with NCD, the extrapunitive reaction «E» was significantly reduced (9.05±0.8 and 8.8±0.5 in boys and girls). Decreased mood and anxious affect in sick children with NDC to a much greater extent than in healthy children could disrupt adaptation to the immediate social environment, more often causing the need for help «IP» (13.2±0.5 and 13.0±0.6 ; P<0.05 in boys and girls) and could disrupt behavior control to a somewhat greater extent.

Table 3

Variants of emotional response of healthy people and patients with NCD in conflict situations (M±m).

Group surveyed		Direction of response Type of response			Direction of response Type of response		
		E	I	M	OD	ED	IP
Patients with NCD	boys	9,05±0,8*	12,11±0,5*	2,44±0,5*	7,0±0,7	3,3±0,46*	13,2±0,5*
Data	girls	8,8±0,5*	12,2±0,5*	3,0±0,4*	7,0±0,5	3,3±0,3*	13,0±0,6*
standardization	boys	11,07±0,5	5,21±0,28	8,43±0,46	7,51±0,47	10,7±0,51	5,58±0,29
	girls	10,16±0,45	5,5±0,29	8,32±0,49	7,2±0,45	10,3±0,52	6,48±0,28

(*) - The data are statistically significant (P < 0.05 - 0.001) compared with healthy children.

Violation of behavior control was accompanied by the restriction of social contacts and the severity of schizotimism «M» (12.1% and 14.2% vs. control 34.2 and 34.7%; P<0.05 in boys and girls).

The given data give grounds to believe that persons with NCD are characterized both by peculiar personality traits that cause a tendency to certain types of mental reactions, and by peculiar relationships between the mental and vegetative aspects of the response, which determine the originality of the autonomic reaction.

In patients with NCD, color shock is quite pronounced. A decrease in interpretations (5.3±0.5 and 5.7±0.6 in boys and girls) and a significant increase in «D» responses indicate a decrease in the ability to synthesize. A decrease in kinesthetic interpretation, according to Rickers-Ovsiankina, is a sign of the attenuation of emotional reactions.

Along with this, when studying the protocols of patients with NCD, other features were found that distinguish patients from healthy people: frequent refusals, especially for tables IV, VIII, IX, X, an indication of symmetry, an increase in CF-responses, an increase

in A + Ad, interpretation of stimulus material in the form of questions, an increase in the percentage of answers in terms of content PI, a decrease in original answers. The type of experience in NCD is, on the whole, extra-intense. In contrast to the healthy population of schoolchildren, in the group of NCD patients there is a significant increase in the mixed type of extratension. The ambiguous personality variant was not registered. The use of the objective assessment scale of the pathocharacterological diagnostic questionnaire (PDO), (112) showed that the number of adolescents with character accentuations significantly differed ($P < 0.001$) among healthy ones (52.35%).

In contrast to healthy adolescents, the following types of character accentuation were significantly more common in patients with NCD: cycloid ($P<0.05$), labile ($P<0.001$), sensitive ($P<0.001$). Psychoasthenic, hysteroid and epiliptoid types of accentuation were also more often observed in adolescents with NCD, but this difference was not statistically significant ($P>0.05$).

The severity of accentuation was not the same in adolescents with different types of NDC. In NCD of the hypertensive type, unstable, labile and cycloid types of accentuation were diagnosed significantly more often ($P<0.01$), and sensitive, labile and cycloid types were characteristic of the hypotonic type of NCD.

Findings. Thus, in the families of children with NDC, upbringing is typical of the type of «hyper-custody».Increased hypersocial attitudes, insufficient emotional contact between parents and children, pedagogical illiteracy of parents in children developed a high level of neuroticism, a sense of internal tension, irritability, attention distraction, depressed mood or apathy, decreased physical and intellectual performance, phobias, desire for leadership. Another group of pathogenic microsocial factors is acute conflict situations. The most typical conditions for the emergence of acute conflicts were quarrels with parents and teachers, situations of clashes with peers (when striving for leadership, feelings due to relationships between parents.) In these children, personality manifestations were unstable. Clinically, NCD was not limited to disorders of vascular tone. Often there were complaints of headaches, nausea, pain in the chest and abdomen, heaviness and pain in the region of the heart, etc.

Most of the 40 (93%) children examined by us with NCD had unfavorable factors of the microsocial environment, which, to one degree or another, participated in the formation of psychosomatic disorders. The identified acute and chronic types of psychotraumatic situations play a different role in the formation of the clinical picture of NCD.

According to D. N. Isaev, acute and severe injuries most contribute to the emergence of secondary neuropsychic syndromes.Repeatedly repeated mental stresses are related to the vegetative-vascular level of response, and by causing long-term pressor reactions of blood vessels, they are directly involved in the formation of a prehypertensive state. Psychogenic stresses of greater depth, arising against the background of prolonged nervous overstrain, contribute to the development of more detailed pictures of psychovegetative disorders.

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