

# Diagnostics of the Current Psychological Status of Children with Chronic Somatic Diseases

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**Abstract** This article discusses the findings of a study on the psychological state and personal characteristics of children with chronic somatic diseases. It is noted that neurasthenic syndrome is predominant among children with various forms of chronic pathology. Additionally, alterations in self-esteem and psychological well-being of children due to the impact of the disease were identified. The study emphasizes the significance of timely psychodiagnostics and correction of psychological disorders to determine the therapy's effectiveness and ensure successful social and psychological adaptation of afflicted children.

## 1 INTRODUCTION

In the world, ensuring the health of the population is not only a social but also an important economic problem in the context of economic growth. In this area, special attention is paid to preserving physical, psychological, and socio-spiritual health from childhood. In 2013, at the 66th session of the United Nations, a comprehensive action plan was approved, which is based on the principle "without mental health, there is no health at all." The insufficient resolution of the problems of organizing the provision of complex psychological assistance and rehabilitation measures remains one of the urgent tasks of practical medicine and psychological service. In the world, based on the fact that chronic somatic diseases take second place after diseases of the central nervous system as a factor in mental and social development delay, special attention is paid to scientific research on the psychosocial determinants of the rehabilitation of children with these diseases. As part of the ongoing scientific research, priority is given to scientific research in such areas as identifying the role of psychological and socio-

## 2 METHODS

Clinical conversation and observation for preschool children include several methods, such as the "Balls" method, which is used to study self-esteem, the method developed by R. Temml, V. Dorki, and M. Amen known as "Diagnosis of anxiety," as well as the method of Rene-Gille referred to as "The kinetic pattern of the family."

## 3 RESULTS AND DISCUSSION

At the initial stage of the study, a clinical conversation was conducted with sick children and their parents. During this conversation, various aspects were explored, including the child's psychological history, the attitude of both the children and their parents towards the illness, the state of the psychological climate within the family, the child's interpersonal relationships, and any psychological complaints. The results of the clinical interview revealed that the primary psychological issue among children with chronic somatic diseases in both age groups is neurasthenic syndrome, which was observed in 88.5%

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of patients. This syndrome manifested through decreased mood (74.8%), fatigue (84.4%), reduced performance (77.7%), sleep disturbances (68.4%), and diminished appetite (62.9%). These symptoms were even more pronounced in cases with severe disease conditions. During the clinical conversation with parents, primarily mothers, it was discovered that 59.4% of patients experienced an unfavourable family climate, characterized by frequent quarrels between adults, poor relationships between parents, and instances of parental divorce. Additionally, 78.4% of children reported issues in the interpersonal sphere, with problems involving siblings (29.3%) or peers (49.1%). 52.6% of mothers complained about their child's aggressiveness, while 61.7% noted hyperactivity and impulsivity, along with difficulties in concentration and self-regulation. Furthermore, 22.8% of children were described as tearful, and 72.3% of mothers highlighted increased anxiety and fear in their children. During discussions with parents and the affected children, it became evident that chronic pathology significantly complicates the social interactions of these children. This was particularly notable in the group of children with a holistic form of viral hepatitis. Despite this form of hepatitis not being contagious, parents of healthy children often fear "infection" due to a lack of knowledge about the disease's specifics. As a result, they restrict their children from interacting with those affected, leading to the isolation of children with a holistic form of chronic hepatitis from society and the development of an inferiority complex. It is widely known that a child's health greatly influences the development of their personality. Therefore, in the treatment and psychological correction of negative aspects in the personal development of sick children, it is crucial to understand and consider the specific deviations related to certain diseases. Our study on the personal development of children included an examination of their attitudes towards their health, as this aspect is integral to a person's self-awareness. As per existing literature and our own research, children with various chronic diseases tend to develop a particular attitude towards their illness. Thus, during the clinical conversation, patients in both age groups were presented with a self-assessment technique to determine their awareness of their condition and their own evaluation of the disease's impact on their personal characteristics. According to the results of the "Balls" method in the group of preschool children, there was a significant decline in self-esteem in all gradations compared to healthy children. Out of 62.2% of patients with chronic somatic diseases, the

majority rated themselves below the norm in terms of their "health." When asked why they considered themselves sick compared to their relatives and peers, the children mentioned instances of headaches, abdominal pain, and other limitations that they experienced. Moreover, 32.8% of children also perceived their mothers as being unwell due to fatigue, frequent headaches, and rest periods. In terms of the "happiness" scale, the concept of happiness in children with chronic somatic diseases was often associated with the satisfaction of material needs by their parents. Children from more affluent families, regardless of their health, perceived themselves as happier, while those lacking parental love and attention exhibited lower self-esteem. Evaluating themselves on the "good-bad" scale, children were influenced by their parents' opinions. Parents of the children in the main group, acting as experts, noted changes in their child's character and behavior after their illness, which included hyperactivity, disobedience, stubbornness, tearfulness, and a weak will. An analysis of the children's self-assessment in terms of the impact of the disease on other parameters, such as "happiness" and "character," revealed that preschool-age children did not yet associate their character traits and positive emotions with their illness. Illness for children of this age was more related to physical limitations, such as following a restricted diet and avoiding strenuous activities. In the second age group (8-12 years old), a similar pattern was observed in the Dembo-Rubinshtein self-assessment method. After illness, 61.6% of children reported changes in themselves, leading to low self-esteem in areas such as "mind," "health," "happiness," and "character." The reduction in self-esteem on the "mind" scale was linked to a decline in intellectual abilities, attention, and memory. Furthermore, the limitations imposed by the disease, such as missing school, engaging in sports, and socializing with peers, contributed to the lowered self-esteem in the "health" and "happiness" scales.

A significant decrease in self-esteem was observed in children aged 11-12 years, which corresponds to the puberty stage. The "health," "happiness," and "character" scales were particularly affected, with scores being significantly lower compared to the control group.

The study of self-esteem in children of primary school age using the Dembo-Rubinshtein method before and after illness indicated significant reductions in the "health," "happiness," and "character" scales in children with gastroduodenal pathology. (Table 1).

Table 1: Self-esteem indicators in a group of children with gastroduodenal pathology using the Dembo-Rubinshtein method, N=60.

Indicators	Self-esteem before illness N=60		Self-esteem after illness N=60		t-criteria	p
	M	σ	M	σ		
Intelligence	6,38	1,29	4,41	1,09	8,288	,000*
Health	8,16	1,25	4,41	0,90	21,184	,000*
Happiness	8,03	1,18	5,09	0,84	16,400	,000*
Character	7,74	1,26	5,76	0,60	12,224	,000*

Note: \* statistically significant differences are noted

Children reported that after the illness, their academic performance declined as they found it challenging to remember the materials they read. The need for twice-yearly treatment in hospital conditions often caused them to miss school, further affecting their academic performance (Table 1). As observed from the table, significant statistical differences exist in the self-esteem indicators of children across the "mind" (t=8.28; p<0.05), "health" (t=21.1; p<0.05), "happiness" (t=16.40; p<0.05), and "character" (t=12.22; p<0.05) scales. It can be concluded that chronic pathology affects various aspects of a sick child's personality. These changes in the personal sphere are fully recognized by the children and significantly influence the internal perception of their illness.

In the group of children with chronic viral hepatitis, there is also a significant decrease in self-esteem across all scales. As seen in Table 2, there are statistically significant differences in the "mind" (t=4.9; p<0.05), "health" (t=13.68; p<0.05), "happiness" (t=16.40; p<0.05), and "character" (t=11.5; p<0.05) scales. Children in this group mentioned that the disease hindered their participation in sports and complained about memory deterioration, lethargy, and apathy. When asked why they rated themselves lower on the "happiness" scale compared to their healthy peers, they pointed out that they were deprived of many opportunities and began to exhibit aggressiveness, irritability, and rudeness in their character.

Table 2. Self-esteem indicators in a group of children diagnosed with chronic viral hepatitis using the Dembo-Rubinshtein method, N=60.

Indicators	Self-esteem before illness N=60		Self-esteem after illness N=60		t-test	p
	M	σ	M	σ		
Mind	6,1	1,53	4,81	1,05	4,902	,000*
Health	7,14	0,91	4,55	1,06	13,685	,000*
Happiness	7,41	1,19	4,21	1,28	12,739	,000*
Character	7,81	1,23	5,3	0,86	11,563	,000*

Note: \* statistically significant differences are noted

If self-assessment studies were conducted before and after the disease in other nosological groups, they were carried out only once for children with cardiovascular diseases. This was due to the early diagnosis of cardiovascular diseases, and the children were only able to report their current self-esteem. Analysing the results of studying the self-esteem of these children (Table 3), it was observed that the "health" scale showed the greatest decrease. This is expected since cardiovascular diseases significantly affect the physical capabilities of the child, imposing

limitations. The children reported experiencing pain in the region of the heart, frequent shortness of breath during physical exertion, and fatigue. When rating themselves according to the "happiness" scale, they associated this concept with their health. Further observations during the tests revealed that these children exhibited characteristics that set them apart from children with other diseases. They displayed traits such as isolation, shyness, self-doubt, and a strong dependence on their parents. However, if we consider the indicators of the "character" scale, these

children rated themselves relatively higher compared to children from other nosological groups. This could be attributed to the presence of hyperactivity in many children with gastroduodenal pathology, as well as complaints from their mothers regarding their aggressiveness and irritability. In contrast, children with cardiovascular diseases were more gentle, compliant, and reserved, and perhaps they perceive themselves as having a better character since they avoid conflicts with others. Below is a comparison of the results obtained by the Dembo-Rubinstein method

in children with cardiovascular diseases and healthy children (Table 3). It is essential to note that this category of children exhibits distinctive psychological characteristics. They were born with their diseases and have faced restrictions from an early age due to their condition. Additionally, their parents tend to be overprotective, considering them "weak," "sick," "limited," and "vulnerable." Naturally, the parental attitudes towards the child's illness influence the child's perception of their condition, self-esteem, and self-perception.

Table 3: Self-esteem indicators in groups of children diagnosed with cardiovascular disease and healthy children using the Dembo-Rubinshtein method, N=69.

Indicators	Cardiovascular diseases=33		Healthy children N=38		t-criteria	p
	M	$\sigma$	M	$\sigma$		
Mind	6,09	1,04	6,58	1,31	-1,703	,093
Health	4,03	1,02	8,0	0,99	-16,398	,000*
Happiness	6,06	1,15	7,32	1,28	-4,230	,000*
Character	6,42	0,67	8,26	0,76	-10,553	,000*

As can be observed from the table, the self-esteem indicators of children with cardiovascular diseases significantly differ from those of healthy children across the "health" ( $t=-16.39$ ;  $p<0.05$ ), "happiness" ( $t=-4.2$ ;  $p<0.05$ ), and "character" ( $t=-10.5$ ;  $p<0.05$ ) gradations. An examination of the self-esteem study results in healthy children revealed that their self-esteem in terms of "mind," "health," "happiness," and "character" corresponds to normal indicators. Children in this group associated their "happiness" and "character" ratings more with socio-psychological factors, such as relationships with parents, the psychological atmosphere within the family, and the attitudes of friends. The comparison of the self-esteem study results among children with chronic somatic diseases showed significant differences in self-esteem across all gradations. After illness, children with chronic pathology noted changes in their character, such as increased irritability, a preference for loneliness, and at times, irascibility and aggressiveness. During conversations, they repeatedly mentioned fears associated with eating, anticipating pain in the epigastric region, medical procedures, and frequent hospitalizations. Some patients emphasized feelings of despondency and decreased academic performance, expressing

embarrassment over frequent illnesses. It should be noted that particularly low self-esteem in all gradations was observed in severe forms of the disease, which was prevalent among children with chronic viral hepatitis leading to liver cirrhosis. Consequently, it can be concluded that chronic somatic diseases significantly alter the social development situation of a child and affect the formation of their personal characteristics, including self-esteem and self-attitude. The more severe the nature of the disease, the poorer the psychological state of the affected child. Additionally, as the child grows older, their awareness of the disease increases, resulting in a clearer yet more complex internal perception of the illness. The interview and self-assessment methods revealed that children perceive the disease not only sensually, in terms of painful sensations, but also psychologically, as an obstacle hindering their goals and as a limitation not only in the physical realm but also in psychological and social well-being. Correlation analysis of the results of the Dembo-Rubinstein technique before illness in children with gastroduodenal pathology demonstrated a negative correlation between the "health" and "mind" gradations ( $p<0.01$ ) (Table 4).

Table 4: Correlation coefficients between indicators of self-assessment before the disease using the Dembo-Rubinshtein method in the group of children with gastroduodenal pathology, N=60

Indicators	Mind	Health	Happiness	Character
Mind		-,403**	-,115	-,102
Health	-,403**		,238	,100
Happiness	-,115	,238		,176
Character	-,102	,100	,176	

Note:\* - p <0,05 \*\* - p <0,01

The correlation analysis of the results of the Dembo-Rubinshtein technique after illness in children with chronic gastroduodenitis did not uncover any significant correlations between the gradations "mind," "health," "happiness," and "character" (Table 4).

Table 5 reveals that a correlation exists between the gradations "happiness" and "character" (p<0.01) in children with chronic viral hepatitis before the disease.

Table 5: Coefficients of correlations between indicators of self-assessment before the disease using the Dembo-Rubinshtein method in the group of children with chronic viral hepatitis, N=60

Indicators	Mind	Health	Happiness	Character
Mind		,016	,053	,078
Health	,016		,101	,208
Happiness	,053	,101		-,339**
Character	,078	,208	-,339**	

Note:\* - p <0,05 \*\* - p <0,01

The correlation analysis of self-esteem indicators in children with chronic viral hepatitis after illness

indicated a relationship between the gradations "mind" and "character" (p<0.05) (Table 6).

Table 6: Correlation coefficients between indicators of self-esteem after illness using the Dembo-Rubinshtein method in the group of children with chronic viral hepatitis, N=60

Indicators	Mind	Health	Happiness	Character
Mind		-,010	,055	,316*
Health	-,010		-,027	-,083
Happiness	,055	-,027		,018
Character	,316*	-,083	,018	

Note:\* - p <0,05 \*\* - p <0,01

In the group of children with cardiovascular diseases, no correlations were found between the gradation indicators. Analysing the results of the study of self-esteem in healthy children revealed that their system of self-esteem across the gradations "mind," "health," "happiness," and "character" corresponds to normal indicators. Children in this group associated their

self-esteem ratings on the "happiness" and "character" gradations more with socio-psychological factors, such as relationships with parents, the psychological climate within the family, and the attitude of friends. Comparing the results of the study of self-esteem in children with chronic somatic diseases indicated statistically significant differences

in self-esteem across all gradations (Figure 6). After illness, children with chronic pathology reported changes in their character, such as increased irritability, a desire for loneliness, and occasional irascibility and aggressiveness. During the conversations, they repeatedly expressed fears related to eating and expecting pain in the epigastric region, medical procedures, and frequent hospitalizations. Some patients emphasized feelings of disinterest, decreased academic performance, and

embarrassment over frequent illnesses. The study results of the psycho-emotional state of sick children demonstrated that both preschool and primary school-aged children exhibited high levels of anxiety. According to the Temple-Amen-Dorkey methodology for studying anxiety in children, significant differences were observed in the indicators of the psycho-emotional state between groups of children with chronic viral hepatitis, gastroduodenitis, and healthy children (Table 7).

Table 7. The results of the ANOVA comparison of the anxiety index using R. Tamml, M. Dorki, & V. Amen’s method between healthy children and those diagnosed with gastroduodenitis and chronic viral hepatitis, N=57

Indicators	Gastroduodenitis N=19		Chronic viral hepatitis N=19		Healthy Children N=19		F	Level of significance (p)
	M	$\sigma$	M	$\sigma$	M	$\sigma$		
Anxiety	35,8	9,8	56,5	9,4	37,4	12,5	22,027	,000*

Note: \* statistically significant differences are noted

According to a qualitative analysis of the results from the "House-tree-man" methodology, it was revealed that 84.4% of primary school-age children with chronic somatic diseases experience a high level of anxiety and fear. Among children with a prolonged illness (over 3 years), high levels of anxiety (93.3%) and fear (80.0%) were particularly characteristic. Notably, these symptoms became more pronounced with a severe degree of the disease, and in the group of children aged 11-12 years (puberty), feelings of fear and anxiety were primarily associated with their health condition (anxiety about the future, fear of death, etc.). In the drawings of children in the control

group, elements of anxiety and fear were rarely expressed and significantly differed from the drawings of sick children ( $p < 0.001$ ). Through this technique, we could also gather information about the personal characteristics of patients. Sick children, when compared with their healthy peers, significantly differed in suspiciousness, irritability, and helplessness ( $p < 0.001$ ). It is worth noting that the majority of children with chronic somatic diseases depicted a hospital or portrayed a sick person as being at home, which confirms the deep psychological impact of their illness.

Table 8. Differences in the indicators of the "House. Wood. Man" methodology as per the nosology, N=108

Indicators	Средний ранг				Kruskal-Wallis test	Significance level (p)
	N=35	Chronic viral hepatitis N=40	Cardio vascular disease N=21	liver cirrhosis N=12		
Insecurity	34,63	72,00	44,95	70,83	34,034	,000*
Anxiety	31,74	63,29	63,38	76,04	31,788	,000*
Self-distrust	50,99	51,55	68,79	49,58	5,797	,122
Feelings of inferiority	27,50	64,14	65,71	81,50	43,534	,000*
Hostility	33,79	75,94	36,74	74,54	47,303	,002*
Conflict	31,69	72,81	50,6	66,83	36,629	,000*
Difficulties in communication	33,79	57,11	73,88	72,29	30,376	,018*
Depression	28,47	68,18	55,83	82,50	44,291	,000*

Note: \* statistically significant differences are noted

As can be observed from the table, children with chronic viral hepatitis experience feelings of insecurity, high anxiety, aggressiveness, a tendency to conflict, and a decrease in mood. The condition further complicates when chronic viral hepatitis progresses to liver cirrhosis. In comparison to children from other nosological groups, patients with cardiovascular diseases exhibit a high degree of anxiety, an inferiority complex, and difficulties in interacting with others ( $p < 0.001$ ).

The attitude of parents towards a child suffering from a chronic disease is of great importance, as stated by various experts (V.V. Nikolaeva, E.P. Kasatkina, M.A. Zhukovsky). The study results on the parents' attitude towards their child's illness revealed that during the initial stage of the illness, parents often show indifference. However, as the disease worsens and the child requires hospitalization, parents may

panic and become overprotective, excessively limiting the child's freedom and even trying to shield them from their siblings. The parents' attitude towards the child also depended on the family dynamics, the number of children, and the child's financial situation.

One of the age-specific characteristics observed in pubertal children (10-12 years old) is their desire to assert independence and break free from parental care. It was found that parents' efforts to restrict the child's abilities and overprotectiveness, without recognizing their independence, can lead to interpersonal relationship issues between parents and children. Children in this particular age group often sought help from a psychologist, and their illness was influenced by problems in interpersonal relationships, which hindered disease remission. The PARI method yielded the following results: [The specific results from the PARI method should be inserted here].

Table 9: Attitude indicators of the children's parents using the PARY method (N=30)

Scales	Average value	min	max	Standard deviation
Optimal emotional connection	10,17	6	16	2,7
Excessive emotional distance	16,43	12	19	1,9
Too much focus on the child	17,10	12	19	1,6

During the process of treatment, it was also uncovered that parents impose excessive demands on their children, which includes constant and strict control over the child's diet, behaviour, and acceptance of medical procedures. This situation, on one hand, causes a sense of dissatisfaction in the children, and on the other hand, in preschool-age children, it leads to stubbornness, disobedience, and a desire to defy their parents or display high levels of infantilization.

#### 4 CONCLUSION

Chronic somatic pathology significantly alters the social development of preschool and primary school-age children, impacting all aspects of their lives in a negative manner. In preschool children, their perception of the illness heavily relies on their parents' understanding of the condition, often leading to distorted views. As children grow older and enter primary school, they begin to comprehend their illness and assess its impact on their overall quality of life. The psychological changes in a sick child depend

largely on the nature, severity, and duration of the disease. More severe and prolonged illnesses have a greater negative impact on the child's psychosocial well-being. When implementing psycho-corrective measures for these children, it is crucial to consider the specific characteristics of their diseases. For instance, art therapy, fairy tale therapy, and psychogymnastics have proven to be effective in cases of chronic viral hepatitis and cardiovascular diseases among children. The use of fairy tale therapy, game therapy, and psychogymnastics for children with chronic gastroduodenitis has shown positive results in alleviating the high levels of fear and anxiety associated with the diseases and the treatment process. For children with cerebral palsy, it is essential to assess their sensory function, orienting-cognitive reactions, and the development of emotional connections with others to determine their developmental opportunities. These children may exhibit certain characteristics during communication, such as low emotional responsiveness, lethargy, high fatigue, and attention instability.

The main focus of rehabilitation for children with chronic somatic diseases should consider their attitude towards the illness, their relationships with

parents and others, and the changes in their psycho-emotional well-being while taking into account their overall psychological status. Rehabilitation and habilitation efforts aimed at these children should aim to fully restore their participation in society, enhance their quality of life, and facilitate their social and psychological adaptation.

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