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Case Report

Mental health of children with special education needs

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Abstract. *We have examined 298 children with disabilities (cerebral palsy, neuro-sensory hearing disorders, and mental retardation). With method of multidimensional statistic (method of main components) we have identified "weighting contribution" of clinical-psychological, biological and social characteristics, influencing on development of psychopathological disturbances in children with disabilities. We have distinguished 'pathogenetic' and 'sanogenetic' factors of formation of psychopathological disturbances in such children.*

Keywords: children with disabilities, ontogenesis, family, risk factors of development of psychopathological disturbances.

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INTRODUCTION Increase of number of children with disability requires new theoretic approaches to their education, upbringing and organization of their vital activity optimizing social-psychological adaptation of the child and contributing full-value integration into the society (Potapov, 2008; Mendelevich, 2010; Baranov, 2010; Mirzayan, 2011; Chou *et al*, 2009; Venkadesan & Finita, 2010). Level of social adaptability of a child with disability is determined by his/her functioning in family, school and culture of peers (Gagarkina &Novikov, 2006; Agavelyan, 2011). In clinical examination of such a child, it is important not to limit oneself by formal clarification of symptoms but take into account social functioning of the family, school and peers' factors. Multi-factorial approach is a basis for multi-axis diagnosis that allows assessing presence of psychiatric syndrome in the context of micro-social conditions, which should be taken into account during conducting the psychotherapy and psycho-preventive activities (Ademiller, 2005; Dmitrieva, 2006).

RESEARCH METHODS AND RESULTS Our investigation included 298 children at the age of 10-18 years with disabilities (cerebral palsy, hearing disorder, mental retardation, combined defects). Course of diseases in childhood and adolescence is influenced by many factors that increase likelihood of onset of psychopathologic disturbances. One of objective of our investigation was clarification of "contribution" of various significant factors. To meet this challenge we used method of multi-dimensional statistic – method of main components (MC). Calculation of factors (main components) for many variables and correlation between integral indices allows detecting of interrelationships between the multiplicities. In our investigation, search for integral indices included analysis of 89 clinical-psychological, biological and social signs (90 objects). Revealed indices allowed

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to "reducing" baseline 89 indices up to 6 and obtaining the most significant clinical-psychological, biological and social indices.

The *first MC* explains 16.9% of general variability and has been represented by sum of 7 signs: "alcoholism of the father", "composition of the family", "material level", "pathology of upbringing", "place of living" (city, village), "alcoholism of the mother", "death of children". On one pole - complete family, absence of alcoholism of parents, living in the city, harmonious upbringing in the family, middle and high material level. On opposite pole there are persons, basically, from rural locality, whose parents abuse alcohol, in the part of children in the family history there is a death of parents, these are children from an incomplete families or they are brought up in adopted family, with upbringing according to type "hypo-care", low material level. Consequently, interrelationship of indices of the first MC reflects characteristics of functioning of the family, interaction between parents and children and may be named integral index **Family**. As an example of combined impact of adverse signs of this integral index there is a clinical case:

Clinical Case 1

Oksana M., 17 years old, diagnosed with sensori-neural hearing loss of stage II-III, mental retardation of mild degree, speech disorder F 80.88. She was born in one district of Tomsk Region, parents systematically abused alcohol, during pregnancy her mother smoke and did not stop alcohol consumption. Child from twins, her brother also has diagnosis of mental retardation. Parents divorced when the girl was 6 years old. Material level of the family was always very low. Early development – with retardation, hearing disorder was revealed after 3 years, parents neglected development of the child. She did not visit a kindergarten. Regional medical commission has referred her for study at boarding school for children with hearing disorders in Tomsk. Skills of self-service were learned at school, where she studied; according to program of kind VIII she coped very weakly. Her mother continued to abuse alcohol, from time to time did not work, eventually died when Oksana was 14 years old. At the moment girl is brought up by guardian (far relative), the father is deprived from parent's rights. She started smoking when15, uses episodically alcohol drinks in company of peers. During last two months the girl lives in the family of a classmate, whom she is going to marry.

The *second MC* explains 12% of total variability and is represented by three variables: "presence of mental pathology", "phobias" and "level of anxiety". We have distinguished group of children with presence of phobias in family history and middle and high level of anxiety in actual state. Conditionally, this integral index has been made **Psychopathological predisposition**. An example of similar ratio may be served by the following clinical case:

Clinical Case 2

Roma, 13 years old, cerebral palsy, hyperkinetic form, delay of mental development F 83. Roma considers his abilities as low, does not believe in his forces, and has no friend among classmates. This boy has low level of learning motivation, predominance of situational interest during the lesson and study because of necessity. During classes refuses to do new tasks, explaining that he "will not be a success". Failures in study and inability to communicate with peers have formed aggressive-defensive type of behavior. According to words of his parents, the boy refused to visit school, complained about ill health during lessons with him feeling satisfactory under home conditions. In family history the boy had multiple fears (darkness, being alone, dogs, spiders, height). During testing of anxiousness on Spielberger-Khanin, middle level of situational anxiousness and high level of personality one have been revealed. During complex study we have revealed instable attention, with difficulty switched from one kind of the activity to another one, heightened

fatigue, and low level of productivity of memory. Roma experienced great difficulties during learning to write and read, understood badly and could not perform instruction of the teacher, stack on separate details, and coped with logic tasks with difficulty.

The *third MC*– integral index **Spectrum of developmental disturbances** (7.1% of total variability) – reflects basic components of disturbed development and includes three compounds: "neurological pathology", "musculoskeletal disturbances" and "speech disorders".
This index has distinguished children with present musculoskeletal disturbances, speech and neurological disorders.
The *forth MC* – integral index **Obstetric history** (6.8% of total variability)– includes three indices: "pathology of the forth half of pregnancy", "pathology of the second half of pregnancy", "pathology of labor".
Integral index determines significance of available in family history pathology of perinatal period. We notices most often as follows: toxicosis, threatened abortion, prolonged stress, infectious diseases during pregnancy, prematurity of various degrees, birth by a Caesarean section, quick or accelerated labor, labor stimulation, extrusion of the fetus, forceps delivery, asphyxia and umbilical cord entanglement.
As example of combination of discussed factors the following clinical case may serve:

Clinical Case 3
Mikhail V., 12 years old, was born from the second pregnancy (the first was terminated by medical abortion at early term). Pregnancy was with threatened abortion and chronic intrauterine hypoxia of the fetus. The mother was diagnosed with CMVI and HSV infection .His delivery was at term 30 weeks, his weight 1,500 g, his Apgar scores rated3/5, he experienced, phenomena of perinatal encephalopathy. From discharge summary of Newborns' Pathology Unit: «PCNSI of infectious-ischemic-traumatic genesis (CMVI, HSV in the mother), prematurity of degree I, pulmonary atelectasis, intracranial hemorrhage, convulsions, and two-sided pyramid deficiency». Up to two years was regularly observed by pediatrician and child neurologist with diagnosis of "encephalopathy", his mood was characterized by heightened excitability, tearfulness. In 2 years lowering of hearing has been revealed, and he was diagnosed with sensori-neural hearing loss of degree II (right) – III (left). At the moment mental status is characterized by disturbances of activity and attention, safe intelligence, hypoplasia of verbal means against the background of sensori-neural hearing loss. Family with two parents, who have high education, harmonious upbringing. Younger sister (4 years old) – without peculiarities in development.

The *fifth MC* (6.6% of total dispersion) **Profession of the mother** is represented by a single index – «professional occupation of the mother» – having distinguished children whose mothers are occupied by working specialties. Part of them are mothers who have high or secondary professional education but urged to lower level of their professional claims, much because of presence of a disabled child. To major extent this concerns mothers of children with cerebral palsy and hearing disorder. Others originally do not have special professional education.
The *sixth MC* (5.3% of total variability) **School dis-adaptation, disturbance of behavior** is represented by three indices, reflecting adaptation to learning activity: "progress at school", "adaptation to school", "behavior".
We distinguished children with disturbance of adaptation to school, low academic progress and presence of behavioral disturbances within both school and family. Disturbances of behavior manifested themselves as abstaining from classes, leaving home, smoking, using alcohol, acting psychological and physical violence above the other schoolchildren (name calling, seizure of personal

belongings, making to perform certain actions). This group also included children with low sociometric status in class - "outlaws". As an example illustrating adjustment disorders to school, disturbance of behavior the following clinical case may serve:

Clinical Case 4
Anya, 14 years old, diagnosed with cerebral palsy. Till class 6, was taught under conditions of home education. She had a good progress, waited with joy for teachers, and attended actively lessons of adaptation and extra-lesson activities. In development of personality we noticed heightened suggestibility, insecurity, immaturity of emotional-volitional and motivation-need domain. These traits began to manifest brightly with transition of the girl into the class of adaptation (this is one of forms of training which schoolchildren may choose depending on state of health). Broadening of cycle of communication at school and without it reflected at subjective attitude toward her defect. Psychological state of Anya was characterized by constant inner conflict, her wishes and intentions often diverged with deeds. She became to pay heightened attention to her appearance. Without taking account for material well-being of the family, Anya demanded beautiful things, colored hair almost every week, she wanted look like as somebody but not herself. In such a way she protested against her illness, defect of appearance, refused to accept it. In class 9, she suggested to herself that her name is not happy, during receiving the passport she has changed name Anya to Sofia, explaining that she did want to be "Anna on the neck". We noticed heightened timidity, shyness, absence of initiative, low level of motivation with heightened self-esteem. She related to classmates friendly but with trust, she had not close friends. In spite of normal cognitive processes, progress with transition into class of adaptation began to fall. Change of learning stereotype, adolescence and inherent in it dysmorphophobic reaction against the background of available defect and traits of personality has negatively reflected on progress at school and behavior of the adolescent.

CONCLUSION In summary, stepwise analysis of clinical-psychological, biological and social indices has allowed to obtain the following six integral indices:

Family reflects social-demographic characteristics of family functioning (composition of the family, place of living - city, village - material level, alcoholism of parents, death of parents) and psychological parameter – type of upbringing.

Psychopathological predisposition has allowed distinguishing of children having in actual state middle or high level of anxiety, presence of phobic reactions in anamnesis, presence of psychiatric diagnosis.

Spectrum of developmental disturbances has distinguished such children who have different combination of disorders, in which basis is developmental disturbance – neurological, musculoskeletal and speech ones.

Obstetric history has allowed to distinguish group of children in whom pathology of perinatal period was multiple and severe.

Profession of the mother is reflection of socio-demographic situation in families of children with disabilities.

School dis-adaptation, disturbance of behavior reflects formal characteristics of school maladjustment and distinguishes persons having disturbances of behavior.

In result of clinical examination, observation and statistical analysis of significant characteristics of children with disability, we have distinguished *pathogenetic* and *sanogenetic* factors of formation of psychopathologic disturbances (**Table 1**).

Table 1 *Pathogenetic* and *sanogenetic* factors of formation of psychopathological disturbances in children with disabilities

Factors	Pathogenetic	Sanogenetic
Family history	Parents of the child have hereditary or acquired mental and somatic disorders, disability	Healthy parents
Pathology of pregnancy	Complicated pregnancy (threatened abortion, somatic and infectious diseases during pregnancy) Alcoholism of mothers Psychological stresses during pregnancy	Healthy woman Favourable pregnancy Complex medical coaching of pregnancy Psychological support of pregnant mothers
Pathology of delivery activity	Pathology in delivery (stimulated, quick, protracted, use of auxiliary means) Delivery by Caesarean section. Perinatal encephalopathy in the child	Appropriate medical help during delivery. Constant medical control in neonatal period. Complex medico-pharmacological help to the child
Developmental peculiarities	Delay of development Presence of distorted development Accompanying mental pathology Accompanying somatic pathology	Harmonious development
Social situation of development	Social development of the child does not correspond to biological age Deficiency of attention of the mother to child, shifting of maternal duties to relatives	Social development of the child corresponds to biological age Careful attitude toward growing child from the side of the mother, understanding and satisfaction of all his/her needs
Family environment	Upbringing in families with one parent and in families with changed structure (step-mother, step-father), guardians Low educational level of parents Low material level Alcoholism of parents Unfavourable living conditions Pathological forms of upbringing	Upbringing in the family with two parents in the atmosphere of understanding and support. Working parents High educational level Harmonious type of upbringing
Visits to children's preschool institution	Without visits to kindergartens Visits to non-specialized kindergartens Disturbed relations with peers	Visits to specialized kindergarten Psychological support Friendly relations with peers
Study at school	Inappropriateness of program of study for abilities of the child Conflict relations with teachers and classmates	Choice of program of study of the child meeting his/her intellectual abilities Formation of trustful relations with the teachers Friendly relations with classmates Psychological support

Combination of above mentioned factors determines prognosis and allows formation of the program of rendering of psycho-corrective, psychotherapeutic and psychopharmacological assistance to child with disability and his/her family.

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