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### **DEVELOPMENTAL PECULIARITIES OF INFANTS WITH CONGENITAL CLEFT LIP AND PALATE**

**Abstract.** The article deals with the peculiarities of development of infants with congenital cleft lip and palate who experienced early surgical treatment.

The methods of investigation include standard test communicative situation, observation of the child's behavior and talks with the parents. In the course of the experiment, the author registered the psycho-motor behavior responses of infants as the most informative ones at the given age. Analysis of individual quantitative indices of psycho-motor development allowed singling out 3 subgroups of infants: infants with a normal delay of psycho-motor development; infants with a mild delay of psycho-motor development; infants with a serious retardation of psycho-motor development. Quantitative and qualitative analyses of the results of the summative experiment led the author to the following conclusions: 1) the state of psycho-motor development of infants with congenital cleft lip and palate may be diagnosed by behavioral responses in the conditions of standard test situations; 2) complex poly-morphemic developmental disorders are observed in 42% of cases of infants with congenital cleft lip and palate; during the first year of life they are manifested by delay or retardation of psycho-motor development; 3) infants with congenital cleft lip and palate need differentiated remedial-developing treatment for the formation of psycho-motor sphere. The results of the undertaken experiment made it possible to lay the theoretical foundations and work out remedial-developing treatment of infants with congenital cleft lip and palate.

**Keywords:** children with special needs, congenital cleft lip and palate, early surgical treatment, peculiarities of infants with cleft lip and palate, speech development of children with cleft lip and palate.

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Nowadays we are witnessing a stable tendency of growing number of children with special educational needs [18; 19; 25; 30; 33, etc.], and children with congenital cleft lip and palate take one of the leading positions among them. Statistics show that the incidence of congenital cleft lip and palate in different regions varies from 1/1000 to 5.38/1000 [2; 4; 3; 24;

34; 47; 49; 54; 56, etc.].

Provision of health-rehabilitative medical treatment for children with special educational needs (SEN) is aimed at the maximally full recovery of their somatic and psychological well-being. Pedagogical influence exercised in early childhood ensures high rehabilitative effect. The positive pedagogical result is mainly achieved

due to the unique character of this age for the formation of a number of functions in the process of psychological development. Timely and high-quality remedial-pedagogical support helps to remove or maximally minimize the primary defect and to prevent emergence of secondary disorders [1; 12; 23; 27; 28; 29; 32; 37; 40; 41; 50; 51; 53; 57; 58, etc.].

A complex approach to the treatment and rehabilitation of children with congenital cleft lip and palate that has formed in global practice defines strong interdisciplinary ties in the team of specialists. Many medical centers of the Russian Federation providing treatment of children with congenital cleft lip and palate perform surgery at 3, 2, 1.5 years of age and earlier [4; 34; 46; 13, etc.]. Still all existing methods of speech therapy in children with congenital cleft lip and palate have been created for toddlers, preschoolers and schoolchildren [7; 9; 11; 14; 15; 17; 21; 26; 42; 44; 48; 52; 55; 59, etc.].

Pedagogical literature contains separate bits of information about the peculiarities of pre-linguistic development of infants with congenital cleft lip and palate.

M. Zeeman [20] distinguishes two periods in the development of speech in children with cleft palate. During the first period, the child has a chest voice, and the pronunciation of some sounds hardly differs from normal pronunciation, because the speech sounds of such children are articulated without influence and participation of resonators. The second period begins when the child starts making up first

words and tries to imitate the pronunciation of the words he hears as exactly as possible. During this period speech impairments are direct results of incorrect articulatory movements and inappropriate voice leading.

Characterizing the pre-linguistic stage of development of infants with congenital cleft lip and palate G. V. Chirkina [55] highlights inadequate activity of babbling, speech delays, and a long interval between the emergence of first words and phrasal speech in such children.

I. I. Ermakova [17] writes that the acoustic properties of voice of children with cleft palate during the first year of life do not differ from the voice of children with the normal structure of the upper jaw.

According to some scholars [10; 16; 45], children with congenital cleft lip and palate demonstrate a slow-down of the process of speech acquisition from the first months of their lives: the work of auditory and motor analyzers is distorted, babbling begins late, speech activity is lowered, and vocabulary and speech comprehension is limited on the background of the deficit of emotional communication with adults and delay in the development of actions with objects and in playing.

L. I. Vansovskaya [6] states that children with congenital cleft palate scream, cry and coo with a normal child voice. The changes in the timber – open nasal resonance – appear when they start babbling and articulate their first consonant phonemes.

Thus, there appears a hypothesis that early development of children

with congenital cleft lip and palate differs from the developmental norm, which finds its expression in specific speech disorders.

The goal of our research consists in the study of the peculiarities of pre-linguistic development of infants with congenital cleft lip and palate.

Experimental work was carried out on the basis of the State Health Protection Institution "Children's Hospital of Medical Rehabilitation, Scientific-practical Rehabilitation Center "Bonum" in Ekaterinburg. The experimental study included 86 infants with congenital cleft lip and palate of the first year of life living in Ekaterinburg and Sverdlovsk Region.

On the results of anamnesis information we included in our experimental study children of groups 1 – 3 according to S. M. Grombakh. Health group 1 consisted of healthy children without risk factors of developing a disorder. Health group 2 comprised children without chronic diseases, but with certain functional and morphological-functional curable disorders; children with general physical underdevelopment without endocrine disorders; children with bodyweight deficit or excessive weight; children who often or/and for a long time suffer from acute respiratory diseases; and children with physical disabilities, trauma or operation aftereffects preserving the corresponding functions. Health group 3 included children suffering from chronic diseases at the stage of clinical remission with rare complications; preserved or compensated functional capacities without complications of the basic disease;

children with physical disabilities, trauma or operations aftereffects preserving the corresponding functions; the degree of compensation should not limit the possibility of teaching the given child [31].

*Clinical diagnoses of the experimental group children:*

1) congenital cleft lip and alveolar process — 18 %;

2) congenital cleft hard and soft palate — 46 %;

3) congenital cleft lip and palate — 23 %;

4) congenital bilateral cleft lip, hard and soft palate — 13 %.

*In the course of the first year of their lives all children were treated with cheiloplasty, eight children underwent uranoplasty.*

The methods of investigation included standard test communicative situation, observation of the child's behavior and talks with the parents. While carrying out the experiment we registered psycho-motor behavioral responses of the infants as the most informative indicators at the given age.

The obtained data show that the psychomotor development of infants with congenital cleft lip and palate belongs to a wide range of states from the low limit of the age norm to pronounced pathology. The visual and auditory spheres conventionally occupy the upper part of the range; they have the best value parameters. The summative evaluation mark of the visual sphere amounted to 0.86; the auditory sphere mark was 0.80 with the maximally possible mark of 1.00. The tactile-motor sphere takes up the medium part of the range with the

summative result of 0.72. The lower part of the range is occupied by the tactile-oral sphere with the lowest mark of 0.45. The ability to interact with the surroundings (free activity) in infants with congenital cleft lip and palate is evaluated at 0.72. Thus, infants with congenital cleft lip and palate the orientation phase of formation of random movements is close to the norm, while the execution phase considerably lags behind the norm and the tactile-oral sphere suffers the most dramatic decline.

The analysis of individual quantitative assessment of psycho-motor development allowed us to distinguish 3 subgroups of children:

– *subgroup 1* — infants with psycho-motor development within the age norm, 49 infants, 57%;

– *subgroup 2* — infants with psycho-motor development delay of 2 epicrises, 28 infants, 33%;

– *subgroup 3* — infants with psycho-motor development delay of 3 epicrises, 9 infants, 10%.

The clinical diagnoses in the subgroups were distributed in approximately the same proportions as in the general experimental group, i.e. there was no direct correlation between psycho-motor development and clinical diagnosis. Still psycho-motor development of infants in each subgroup had certain peculiarities.

*The infants of subgroup 1* were characterized by the emergence of the excitement complex, general motor skills, orientation reactions, and learning and manipulation activity.

At the age of 3 months infants could hold their heads up, made active

coordinated movements with their arms and legs, and gripped objects put in their hands. The infants responded to their mothers' approach by intensified movement activity and a smile, concentrated on the face of the adult, and reacted to the mother's voice emotionally and by mimicry. They developed a contact glance, a response smile and loud vocalizations characteristic of their age. All infants responded to auditory and visual stimuli, followed them with their eyes, turned their heads after the moving toy and listened to the noise of the rattle.

At the age of 6 months the infants could sit on their own and tried to crawl. By this age the infants could communicate with an adult at the distance of 2-3 meters using visual and mimic means of communication and intonational speech. They easily localized the sound in space, knew their name and showed interest to toys. They took the offered toy with one hand, put it into the other hand, looked at it, and put it in the mouth; i.e. manipulated it in the same way as their healthy peers.

By the age of 9 months the infants could stand; and by the age of 1 they could walk by themselves. The mimic communicative means were used in combination with gestures and intonation-rhythmic vocalization, which corresponded to the age norm. They actively manipulated objects and felt and studied toys. Playing manipulations were accompanied by vocalizations. By the age of 1 there appeared object-oriented actions (lulling and feeding a doll).

Disorders were found in the tac-

tactile-oral sphere only, which is connected with the anatomic-functional state of the speech organs. In spite of anatomic integrity disorders, the oral reflexes were preserved, the fragments of the cleft muscles of the palate and the lips were active, the root of the tongue moved actively; at the same time the tip of the tongue was passive. Incorrect functioning of the speech organs muscles made it impossible for the child to make the vitally important sucking movement effectively and urged to look for a compensatory mechanism of the lost function. A baby with unilateral cleft palate changed the position of the tongue at the time of feeding and pressed the nipple to the undamaged part of the palate. In most cases parents and doctors help the infant to find the necessary compensatory mechanism, hold the child in upright position, and use a wide orthodontic nipple-feeder or orthodontic plate covering the defect zone. A carefully chosen orthodontic nipple-feeder and vertical position while feeding allowed the child to learn how to eat; penetration of food into the nasal cavity was observed very seldom or did not take place at all.

Early vocalizations of the infants of this subgroup did not differ from those of the healthy babies: they loudly screamed and pleasantly cooed, but the subsequent articulation of the speech sounds of their native tongue was distorted. The children had considerable articulation difficulties while reproducing babbling sequences and onomatopoeic words after adults. Only vowel and nasal consonants were present in babbling sequences.

The same as the majority of healthy children, infants with congenital cleft lip and palate listened to another person's speech attentively and tried to reproduce the articulation of the adults, but because of the anatomic defect, they utterly seldom pronounced and strongly mispronounced *mediolingual consonants* [л'], [j]. By the age of 1 they could express their emotional state by intonation-rhythmic vocalization and pronounce 3 – 5 poorly articulated words (*mama, lyalya, nyanya, am, mu*). Thus, alongside with normal psycho-motor development, the children demonstrated pathological preconditions for phonetical-phonemic speech underdevelopment.

The results of a follow-up observation of the state of the children of this subgroup at the age of 3 showed speech development corresponding to the age norm (29 %), mild speech underdevelopment (35 %), and medium level speech underdevelopment (36 %). The data obtained at the age of 5 testified to the speech norm (28 %), phonetical or phonetical-phonemic speech underdevelopment (68 %), and level 3 general speech underdevelopment (4 %). The state of the voice function did not worry the parents.

*The infants of subgroup 2* in addition to disorders of the tactile-oral sphere demonstrated disorders of interpersonal communication in the "child – adult" communication line, which led to psychomotor underdevelopment.

At the age of 3 months infants could hold their heads up well enough, but the movements of their arms and/or legs were limited or

weakened because of the unbalanced muscle tone. In communication with adults they developed a contact glance and a response smile in due time, but still the time of visual and auditory concentration and vocalizations was shortened; we registered the delayed or postponed character of manifestation of orientation responses. The infant showed faster and more emotional response to a stronger stimulus – to a toy making noises, rather than to an adult's voice. The reflexes of oral automatism were preserved, and the sucking movements were performed actively with the root of the tongue and the fragments of the cleft lip. In comparison with subgroup 1, the infants regurgitated food through the nose more often and could not get used to the orthodontic nipple-feeder and vertical position while feeding.

At the age of 6 months the infants could sit on their own or with an adult's help; in communication with adults at a short distance they gave a brief glance and displayed a desire to do something else. They refused to communicate at a longer distance and did not notice auditory and visual stimuli. It was possible to make the infant concentrate his attention on the adult for a short time only with additional stimulation (by picking him/her up in the arms, raising, speaking loudly, correcting movements, etc.). The infant's occupation in playing with a toy was short-lived, there was no regarding the toy and a limited number of manipulations (he only swings the toy, only licks it or knocks with it); he kept trying to get another toy or showed passive recurrent manipula-

tion of one and the same object. Actions with a toy were accompanied by cooing. It was a short emotionally positive curve of intonation. At the adult's attempt to support the vocalization the infant got silent and began cooing after some time.

By the age of 9 months the infants could stand with support, moved in the cradle, at the age of 1 they began to walk by themselves; they looked an adult in his/her face, followed his/her actions, but refused to interact; their attention was difficult to attract and keep. After having started an activity, they quickly got tired, distracted or stuck in one activity. The character of development of orientation-investigative activity differs from that of healthy peers in a limited variety of actions, sticking in a single action, and fast loss of interest. The infants could not single out separate actions of the adult, and did not show any enthusiasm to join them. They did not display emotional preference for the close relatives; they could easily and fearlessly "get in contact" with a stranger. All these facts influenced the formation of the visual-mimic and gesture means of communication: unstable short-lived contact glance, late manifestation of a pointing gesture, replacement of a pointing gesture by stretching his arm of moving the upper part of the body in the direction of the object, absence of a connecting glance. Infants often gave inadequate responses to simple verbal requests and questions of the adult ("Give me a pen", "Where is mom?"). Intonation-rhythmical speech had been formed by the age of 9 months. It lacked con-

sonants, but vowels were linked rhythmically and were repeated up to 4-5 times. By the end of the first year of life, the infants looked the adults in the face, but did not try to imitate the articulation, though when in good mood, they could pronounce a kind of distorted babbling words. Speech activity in general was lowered. Thus, inaccuracy of perception and execution of random movements and actions was reflected on the formation of language intonation, impressive aspect of speech and articulation.

Dynamic observations of speech development of the infants of the given subgroup showed: at the age of 3 – age norm (13 %), mild speech underdevelopment (27 %), and medium level speech underdevelopment (60 %). The data obtained at the age of 5 testified to the phonetical-phonemic speech underdevelopment (42 %), and level 3 general speech underdevelopment (58 %). The infants of this group had insignificant nasality, distortion of some sounds and underdevelopment of phonemic hearing.

*The infants of subgroup 3* demonstrated disorders of the tactile-oral sphere, interpersonal communication, and sharp deterioration of object-oriented activity in the “adult – child – object” communication line, which was an aggravating moment in their cognitive activity development.

If the infants of the first two subgroups first met a logopedist during the 1<sup>st</sup> and 2<sup>nd</sup> months of their lives, the first logopedic observation in subgroup 3 had not been conducted till the age of 3 months. Earlier logopedic observations had been impossible be-

cause the infants had been in children’s clinics where they received treatment. All infants aged 3 months demonstrated underdevelopment of general motor skills: they took unnatural posture, could hardly hold their heads up, the excitement complex had not been formed, the adult’s actions caused a defense response – fear, negative emotions, suppression of elementary motor activity and generalized response. At the age of 3 months visual and auditory functions were on the level of physiological reactions; weak orientation responses emerged after active stimulation by adults. Gripping objects turned into reaching the arm in the given direction, touching it by chance, which seldom ended in catching and holding it. Serious problems were observed in relation to the speech organs. In addition to the congenital cleft lip and palate, the infants had weakened reflexes of oral automatism and a suppressed sucking reflex. The infants of this group were late in learning to eat, a considerable amount of liquid got out through the nose, there was choking and food regurgitating, and some children were fed through a feeding tube. Voice reactions represented weak screams and wheezing.

At the age of 6 months communication was possible in the conditions of a complex influence on the part of the adult including the adult’s presence in the infant’s vicinity, looking in the eyes, talking and tactile contact. It was in this situation only that the infants exhibited responses: they caught the contact glance for a short time, and gave a faint smile.

While following an object of observation the eye movements were incremental; the infants often lost sight of the object and did not resume the search of it. We also noted changes in the formation of general motor skills and functional capacities of wrists and fingers. The infants could not sit on their own at this age, but the parents consciously put them in the sitting position in the knees or cushions which facilitated the emergence of the gripping skill, but the follow-up orientation-investigative activity (observation, feeling, manipulation of an object) was absent. Cooing resembled prolonged pronunciation of separate vowels, was poorly intoned, weakened and quickly faded.

Direct emotional-personal communication reinforced by visual, auditory and motor coordination was formed by the age of 9 months. The infants could roll from back to belly by themselves, raise the upper part of the body trying to sit up and sit (more often with a support). The excitement complex at this age was differentiated: the infant carefully regarded the adult's face in response to his/her approaching and on hearing his/her voice he turned his head and concentrated on the source of the sound. When showing an object we noticed lowering the cognitive interest and non-productive playing. If the toy was in the adult's hands the infants made a definite movement towards it, but if the adult did not control the child's attention the toy was neglected. The toy put in the child's hand was held but not regarded and not transferred from one hand to the other. By the age

of 9 months the infants got practically fully used to the inadequate structure of their speech organs. In the process of feeding, liquid seldom got out through the nose, the relaxed tongue was on the lower gingivae, and we usually registered ptialism. Vocalization took the form of cooing. Vocal responses of the infants resembled prolonged cooing without clear intonation. The voice became strong enough, though wheezing still remained.

Towards 1 year of age the infants could stand with support, but could not walk by themselves. General motor skills were late in forming and the sequence of acquisition of motor skills was violated. The infants of this age demonstrated elements of simulation-gaming interaction with parents with dominating activity of the latter. The infants displayed positive emotions to communication with the adults, readily responded to playing, but did not show initiative themselves and there was no productive communication. The adult handed the toy, the infant took it, put it into his mouth, threw it away and rarely regarded it. Due to the infants' passivity, contacts with the grown-ups were short-lived and hardly effective; there formed a distorted visual-acoustic and mimic form of communication with no accompanying gestures. The infants did not express their desires, the pointing gesture had not been formed, and the adult guessed about the infant's intentions by the direction of his look, body position and from the situation. By the age of 1 infants understood not more than three separate words, there emerged babbling with a shade of na-

sality, screaming, the undifferentiated consonant sound [m/n]; wheezing still remained. Children of this age often developed pathological habits, for example, sucking a finger. It was only at the age of 1 that they could hold a toy with the hand and regard it and take small toys with their fingers.

Follow-up observations showed that at the age of 3 the infants of this subgroup had mild and pronounced speech underdevelopment (100 %); at the age of 5 – level 3 general speech underdevelopment (40 %) and level 2 general speech underdevelopment (60 %). For a long time, these infants could not master specified oral exhale, had difficulties in differentiating nasal and oral exhale and articulatory positions of speech sounds. Their voice contained clearly marked nasality and overtones caused by turbulence of the exhaled airflow. The children possess reduced cognitive activity.

The quantitative and qualitative analysis of results of the summative experiment allowed us to formulate the following conclusions.

1. The state of psychomotor development of infants with congenital cleft lip and palate may be diagnosed by behavioral responses in the conditions of a pre-determined communicative situation.

2. Complex poly-morphemic developmental disorders are observed in 42% of infants with congenital cleft lip and palate; during the first year of life they are represented by a delay or retardation of psychomotor development.

3. Infants with congenital cleft

lip and palate need differentiated remedial-developing support in formation of the psychomotor sphere.

The results of the given experimental research made it possible to give foundations and work out a system of remedial-developing support of infants with congenital cleft lip and palate.

#### References

1. Arkhipova, E. F. Korreksionnaya rabota s det'mi s detskim tserebral'nym paralichom (dorechevoy period) / E. F. Arkhipova. — M. : Prosveshchenie, 1989. — 76 s.
2. Balandina, E. A. Voprosy meditsinskogo i sotsial'nogo zdorov'ya detey Permskogo regiona / E. A. Balandina, E. Yu. Simanovskaya, N. V. Zaytseva // Vrozhdannaya i nasledstvennaya patologiya golovy, litsa i shei u detey: aktual'nye voprosy kompleksnogo lecheniya. — M. : MGMSU, 2002.
3. Baranskaya, L. T., Leonov A. G., Blokhina S. I. Psikhologicheskoe soprovozhdenie patsientov s vrozhdannymi i priobretennymi defektami i deformatsiyami chelyustno-litsevoy oblasti / L. T. Baranskaya, A. G. Leonova, S. I. Blokhina. — Ekaterinburg: SV-96, 2005. — 128 s.
4. Blokhina, S. I. Mediko-sotsial'naya reabilitatsiya bol'nykh s vrozhdannymi rasshchelinami litsa i neba v usloviyakh spetsializirovannogo tsentra : avtoref. dis. ... d-ra med. nauk. — M., 1992. — 50 s.
5. Vansovskaya, L. I. Ustranenie narusheniy rechi pri vrozhdannyykh rasshchelinakh neba / L. I. Vansovskaya. — SPb. : Gippokrat, 2000. — 136 s.
6. Vansovskaya, L. I. Praktikum po tekhnike rechi (fonatsionnyy trening) : ucheb. posobie / L. I. Vansovskaya. — 2-e izd., pererab. i dop. — SPb. : Izd-vo S.-Peterb. un-ta., 2001. — 123 s.
7. Vansovskaya, L. I. Foneticheskie naru-

- sheniya rechi i puti ustraneniya ikh u bol'nykh s otkrytoy rinolaliy posle uranoplasticheskikh operatsiy : avtoref. dis. ... kand. ped. nauk / Vansovskaya L. I. — L., 1977. — 24 s.
8. Vasil'eva, E. P. Osobennosti rechevykh narusheniy u detey pri vrozhdennoy rasshcheline guby i neba / E. P. Vasil'eva // *Sovremennye tekhnologii v diagnostike i lechenii*. — 2011. — № 1. — S. 46—48.
9. Vasil'eva, T. V. Formirovanie leksiki mladshikh shkol'nikov s rinolaliy : dis. ... kand. ped. nauk / T. V. Vasil'eva. — Ekaterinburg, 1998. — 192 s.
10. Volosovets, T. V. K probleme izucheniya detey s vrozhdennymi rasshchelinami guby i neba v preddoshkol'nom periode / T. V. Volosovets // *Aktual'nye problemy foniatrii : tez. dokl. Mezhdunar. simpoziuma (Ekaterinburg, 29—31 maya 1996 g.)*. — M., 1996. — S. 80.
11. Volosovets, T. V. Logopedicheskaya rabota s det'mi v vozraste 1—3 let s vrozhdennymi rasshchelinami guby i neba : avtoref. dis. ... kand. ped. nauk / Volosovets T. V. — M., 1995. — 18 s.
12. Vygotskiy, L. S. *Sobr. soch. V 6 t. T. 4.* — M. : Pedagogika, 1984.
13. Gutsan, A. E. Uranoplastika vzaimoperekidnymi loskutami / A. E. Gutsan. — Kishinev : Shtiintsa, 1982. — 94 s.
14. Derunova, T. Yu. Differentsirovanny podkhod k korrektsii rechi detey s vrozhdennoy rasshchelinoy guby i neba : avtoref. dis. ... kand. ped. nauk / Derunova T. Yu. — M., 2003. — 17 s.
15. Dorosinskaya, A. V. Psikhologo-pedagogicheskaya tekhnologiya korrektsii narusheniy golosovoy funktsii u detey doshkol'nogo vozrasta s vrozhdennoy rasshchelinoy guby i neba v sisteme kompleksnoy rehabilitatsii : dis. ... kand. ped. nauk : 13.00.03 / Dorosinskaya A. V. — Ekaterinburg, 2000.
16. Dorosinskaya, A. V. Rannyya rechevaya rehabilitatsiya detey s vrozhdennymi rasshchelinami litsa / A. V. Dorosinskaya // *Aktual'nye problemy foniatrii : tez. dokl. mezhdunar. simpoziuma 29 maya—31 maya v g. Ekaterinburge*. — M., 1996. — S. 78—79.
17. Ermakova, I. I. Korrektsiya rechi pri rinolalii u detey i podrostkov / I. I. Ermakova. — M. : Pedagogika, 1984.
18. Zaytsev, D. V. Problemy obucheniya detey s ogranichennymi vozmozhnostyami zdorov'ya [Elektronnyy resurs] / D. V. Zaytsev // *Library.by : sayt*. — 2007. — 18 okt. — Publ. № 1192708151. — Rezhim dostupa: [http://library.by/portalus/modules/shkola/readme.php?archive=1196815207&id=1192708151&start\\_from=&subaction=showfull&ucat=](http://library.by/portalus/modules/shkola/readme.php?archive=1196815207&id=1192708151&start_from=&subaction=showfull&ucat=).
19. Zak, G. G. Sotsial'naya rehabilitatsiya detey s umerennoy i tyazhelyoy umstvennoy otstalost'yu v usloviyakh detskogo doma / G. G. Zak // *Spetsial'noe obrazovanie*. — 2012. — № 2. — S. 49—57.
20. Zeeman, M. A. Rasstroystva rechi v detskom vozraste / M. A. Zeeman. — M. : Medgiz, 1962.
21. Ippolitova, A. G. Priemy logopedicheskoy raboty pri otkrytoy gnusavosti / A. G. Ippolitova // *Uch. zap. / Mosk. gos. ped. in-t. im. V. I. Lenina*. — M., 1955. — T. 85. — S. 153—175.
22. Ippolitova, A. G. Otkrytaya rinolaliya / A. G. Ippolitova. — M. : Prosveshchenie, 1983. — 95 s.
23. Isenina, E. I. Doslovesnyy period razvitiya rechi u detey / E. I. Isenina. — Saratov : Izd-vo Saratov. un-ta, 1986. — 163 s.
24. Kalyush, A. V. K voprosu o profilaktike vrozhdennoy chelyustno-litsevoy patologii / A. V. Kalyush, S. I. Blokhina // *Detskaya stomatologiya*. — 1999. — № 2. — S. 32—37.
25. Korkunov, V. V. Kontseptual'nye polozheniya razvitiya spetsial'nogo obrazovaniya v regione: ot teoreticheskikh modeley k prakticheskoy realizatsii / V. V. Korkunov ; Ural. gos. ped. un-t. — Ekaterinburg, 1998. — 124 s.
26. Kukul', V. V. Osnovy logoterapii otkrytoy gnusavosti pri rasshchepleniyakh

- neba / V. V. Kukul' // *Voprosy logopedii*. — Khar'kov, 1941. — Vyp. 4. — S. 49—93.
27. Lazurenko, S. B. Korrektsionno-pedagogicheskaya rabota s nedonoshennymi det'mi pervogo goda zhizni : avtoref. dis. ... kand. ped. nauk / S. B. Lazurenko. — M., 2005. — 26 s.
28. Lazurenko, S. B. Psikhologo-pedagogicheskaya kharakteristika detey-invalidov s umstvennoy otstalost'yu, postupivshikh v doma-internaty v doshkol'nom vozraste / S. B. Lazurenko // *Defektologiya*. — 2008. — № 5. — S. 11—20.
29. Lazurenko, S. B. Sovremennye zadachi i sodержanie mediko-psikhologopedagogicheskoy pomoshchi detyam rannego vozrasta s ogranichennymi vozmozhnostyami zdorov'ya v usloviyakh ambulatorno-poliklinicheskogo uchastka / S. B. Lazurenko // *Defektologiya*. — 2013. — № 3. — S. 35—46.
30. Lubovskiy, V. I. Spetsial'naya psikhologiya : ucheb. posobie dlya studentov defektologicheskikh fak. ped. vuzov / V. I. Lubovskiy, T. V. Rozanova, L. I. Solntseva ; pod red. V. I. Lubovskogo. — M., 2006.
31. Makarova, Z. S. Zadachi pediatricheskoy sluzhby v obespechenii zdorov'ya detey v sovremennykh usloviyakh / Z. S. Makarova, V. A. Doskin, R. V. Tonkova-Yampol'skaya, L. G. Golubeva // *Zdorovyy rebenok : materialy 5 kongressa pediatrov Rossii*. — M., 1999. — S. 132—133.
32. Malofeev, N. N. buchenie slepykh v Rossii XIX veka: gosudarstvo i filantropiya / N. N. Malofeev // *Defektologiya*. — 2004. — № 5. — S. 74—82.
33. Malofeev, N. N. Sovremennyy etap v razvitii sistemy spetsial'nogo obrazovaniya v Rossii: rezul'taty issledovaniya kak osnova dlya postroeniya programmy razvitiya / N. N. Malofeev // *Defektologiya*. — 1997. — № 4.
34. Mamedov, Ad. A. Vrozhdannaya rasshchelina neba i puti ee ustraneniya / Ad. A. Mamedov. — M. : Detstomizdat, 1998. — 309 s.
35. Mamedov, Ad. A. Narushenie rechi i ee vzaimosvyaz' s nebno-glotochnoy nedostatochnost'yu / Ad. A. Mamedov, N. V. Obukhova, A. V. Dorosinskaya, E. S. Naboychenko, A. M. Krylova // *Voprosy prakticheskoy foniatritii : mater. Mezhdunar. simpoziuma (27—29 maya 1997 g.)*. — M., 1997. — S. 212—214.
36. Marchuk, Yu. V. Strukturnoe modelirovanie informatsionno-intellektual'nogo podskazchika logopeda / Yu. V. Marchuk, N. V. Obukhova, D. G. Stepanenko // *Inzheneriya i innovatsionnye tekhnologii v meditsine : sb. statey / pod red. V. M. Lisienko, S. I. Blokhinoy*. — Ekaterinburg: SV-96, 2006. — S. 234—239.
37. Mast'yukova, E. M. Rebenok s otkloneniyami v razvitii: rannaya diagnostika i korrektsiya / E. M. Mast'yukova. — M. : Prosveshchenie, 1992. — 95 s.
38. Naboychenko, E. S. Issledovanie psikhologicheskogo zdorov'ya u patsientov s nebno-glotochnoy nedostatochnost'yu / E. S. Naboychenko, Ad. A. Mamedov, N. V. Obukhova // *Sovremennye reabilitatsionnye tekhnologii i kachestvo zdorov'ya : itogovyy sbornik nauch. materialov za 1996 g.* — Ekaterinburg : RNPTs «Bonum», 1997. — S. 182—186.
39. Ponomareva, E. A. Znachenie rannego logopedicheskogo vozdeystviya dlya vospitaniya pravil'noy rechi u detey, stradayushchikh vrozhdannymi rasshchelina-mi neba / E. A. Ponomareva // *Defektologiya*. — 1978. — № 5. — S. 59—61.
40. Prikhod'ko, O. G. Korrektsionno-pedagogicheskaya rabota s det'mi rannego vozrasta, stradayushchimi tserebral'nym paralichom : avtoref. dis. ... kand. ped. nauk / Prikhod'ko O. G. — M., 2001. — 24 s.
41. Razenkova, Yu. A. Korrektsionno-pedagogicheskaya rabota s det'mi pervogo goda zhizni gruppy riska v usloviyakh doma

- rebenka : avtoref. dis. ... kand. ped. nauk / Razenkova Yu. A. — M., 1997. — 16 s.
42. Rau, E. F. Prakticheskoe rukovodstvo po ispravleniyu rechi pri razlichnykh vidakh gnusavosti / E. F. Rau. — M. : Uchpedgiz, 1933. — 47 s.
43. Repina, Z. A. Nedostatki rechi u detey s defektom anatomicheskogo stroeniya rechevogo apparata / Z. A. Repina // Defektologiya. — 1971. — № 5. — S. 8—10.
44. Repina, Z. A. Narushenie pis'ma u uchashchikhsya s defektami artikulyatsionnogo apparata : dis. ... kand. ped. nauk. — M., 1975. — 173 s.
45. Repina, Z. A. Formirovanie psikhologicheskoy bazy rechi u detey s vrozhdennoy rasshchelinoy guby i neba v mladencheskom vozraste : ucheb. posobie / Z. A. Repina, N. V. Obukhova. — Ekaterinburg : NPRTs «Bonum», 1999. — 54 s.
46. Semenchenko, G. I. Obosnovanie optimal'nykh vozrastnykh srokov khirurgicheskogo vosstanovleniya verkhney guby i neba pri ikh vrozhdennom nezarashchenii / G. I. Semenchenko // Voprosy stomatologii. — 1970. — S. 98—107.
47. Soboleva, E. A. Rinolaliya / E. A. Soboleva. — M. : AST : Astrel', 2006.
48. Solomatina, G. N. Formirovanie zvuko-slogovoy struktury slova u detey s vrozhdennymi rasshchelinyami guby i neba : avtoref. dis. ... kand. ped. nauk / Solomatina G. N. — M., 2003. — 25 s.
49. Stepanenko, D. G. Osobennosti nervnoy sistemy u detey s vrozhdennoy rasshchelinoy neba / D. G. Stepanenko, N. V. Obukhova // 7 Mezhdunar. meditsin. kongress studentov i molodykh uchenykh : materialy k kongressu. — Ternopol' : UKRMED kniga, 2003. — S. 175.
50. Strebeleva, E. A. Korrektsionno-vospitatel'naya rabota s det'mi rannego vozrasta, imeyushchimi narushenie v razvitiy / E. A. Strebeleva // Defektologiya. — 1996. — № 4. — S. 80—83.
51. Strebeleva, E. A. Rannyya korrektsionno-pedagogicheskaya pomoshch' detyam s ogranichennymi vozmozhnostyami zdorov'ya / E. A. Strebeleva // Defektologiya. — 2003. — № 3. — S. 39—42.
52. Taptapova, S. L. Korrektsionnologopedicheskaya rabota pri narushenii golosa : kn. dlya logopeda / S. L. Taptalova. — M. : Prosveshchenie, 1984. — 112 s.
53. Tonkova-Yampol'skaya, R. V. Ozdorovitel'naya i vospitatel'naya rabota v dome rebenka / R. V. Tonkova-Yampol'skaya, E. L. Frukht, L. G. Golubeva, K. L. Pechora, G. V. Pantyukhina ; sost. E. L. Frukht. — M. : Prosveshchenie, 1989. — 192 s.
54. Frolova, L. E. Lechenie vrozhdennykh rasshchelin verkhney guby. — Tashkent : Meditsina, 1967. — S. 35—43.
55. Chirkina, G. V. Narusheniya rechi pri rinolalii i puti ikh korrektsii : avtoref. dis. ... d-ra ped. nauk / Chirkina G. V. — M., 1987. — 34 s.
56. Chuykin, S. V. Reabilitatsiya detey s vrozhdennoy rasshchelinoy verkhney guby i neba / S. V. Chuykin, N. A. Davletshin, L. N. Gerasimov. — M. : Bashgosmeduniversitet MZ RF, 2005. — 294 s.
57. Shmatko, N. D. Esli malysh ne slyshit / N. D. Shmatko, T. V. Pelymskaya. — M. : Prosveshchenie, 1995. — 126 s.
58. Shtrasmayer, V. Obuchenie i razvitie rebenka rannego vozrasta / V. Shtrasmayer ; per. s nem A. A. Mikhlina, I. M. Nazarovoy. — M. : Akademiya, 2002. — 240 s.
59. Yurova, R. A. Formirovanie svyaznoy rechi u detey-rinolalikov doshkol'nogo vozrasta / R. A. Yurova // Defektologiya. — 1996. — № 2. — S. 74—76.