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NON-DRUG METHODS OF CORRECTION OF SPEECH DISORDERS IN CHILDREN

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Resume

The article is devoted to a longitudinal study of children with speech disorders. The sensory profile of children with speech disorders was evaluated. The main sensory integration disorders in children with speech disorders were identified. The effectiveness of non-drug correction methods included in the therapy was evaluated (using sensory-integrative methods).

Keywords: speech disorders, sensory profile, sensory integration, non-drug correction

НЕПРЕРЫВНЫЕ МЕТОДЫ КОРРЕКЦИИ РЕЧНЫХ РАССТРОЙСТВ У ДЕТЕЙ

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Резюме

Статья посвящена продольному изучению детей с нарушениями речи. Был оценен сенсорный профиль детей с нарушениями речи. Выявлены основные нарушения сенсорной интеграции у детей с нарушениями речи. Была проведена оценка эффективности методов немедикаментозной коррекции, включенных в терапию (с использованием сенсорно-интегративных методов).

***Ключевые** слова: нарушения речи, сенсорный профиль, сенсорная интеграция, немедикаментозная коррекция*

GIYOHVAND MODDALARNI ISTE'MOL QILMAYDIGAN BOLALARNI BOLALARDA GAPIRISHNI TUZATISH USULLARI

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Rezyume

Maqolada nutqida nuqsonlari bo'lgan bolalarni uzoq muddatli o'rganishga bag'ishlangan. Nutqida nuqsoni bo'lgan bolalarning hissiy holati baholandi. Nutq buzilishi bo'lgan bolalarda asosiy sezgi integratsiyasi buzilishlari aniqlandi. Terapiya tarkibiga kiritilgan giyohvand bo'lmagan tuzatish usullarining samaradorligi baholandi (hissiy-integrativ usullardan foydalangan holda).

***Kalit so'zlar:** nutqning buzilishi, hissiy profil, hissiy integratsiya, giyohvand bo'lmagan tuzatish*

Relevance

The relevance of a problem is connected by growth of speech disturbances at children. The prevalence of speech disturbances at preschool children and younger school students fluctuates from 9.5 to 25% [1, 2]. According to own data at survey of children from 2010 to 2018, the prevalence of speech disturbances increased from 10% to 29% (fig. 1). Every year all children who began to visit preschool institutions (PI) No. 93 of Vyborgsky district of St. Petersburg looked round.

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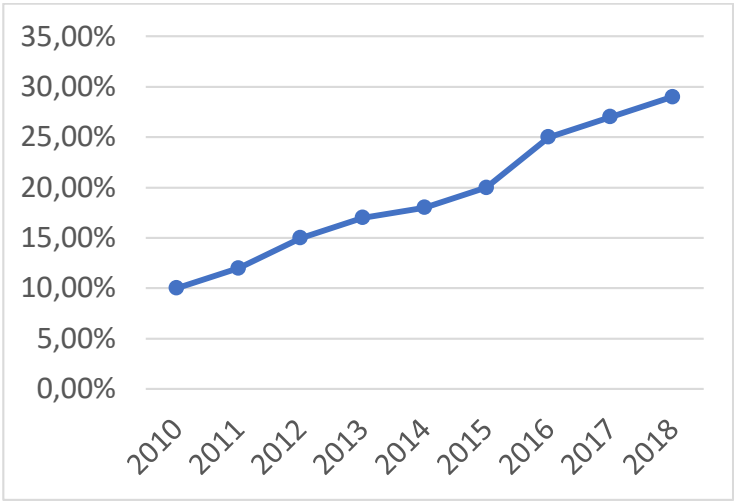

Figure 1. Dynamics of prevalence of speech frustration.

Speech frustration, according to ICD-10, are considered in the sections F80-F89 "Disorders of Psychological Development", at the same time the following main headings are used: F80 - Specific disorders of development of the speech and language (F80.0. Specific dysarthria; F80.1. Frustration of the expressional speech; F80.2. Frustration of the receptive speech). It is rather broad view on a problem of disturbances of the speech. Speech frustration often are followed by comorbid disturbances: behavior disorders, frustration of emotions. Also, children with speech frustration can have symptoms considered within disturbance of touch integration. For the first time the concept "disturbance of touch integration" was offered in 1975 to J.Ayers [3]. In the works it considered disturbance of tactile sensitivity when even insignificant tactile stimulations can be perceived as posing threat. Further allocated a behavior disorder and the affective sphere, connected with disturbances of touch integration, in a special class - affective touch disturbances (sensory affective disorder): avoiding of touches, sharply negative reactions in response to the touches which are not comprising some threat [4, 5, 6]. Also tactile disturbances complemented with the following types: olfactory, acoustical, visual protection, alarm concerning the instability and sharply negative emotional reactions in response to vestibular irritants [7].

The objective of this research was to reveal prevalence of speech frustration, to analyze a touch profile of children with speech frustration and to estimate efficiency of use of touch and integrative techniques in complex therapy of children with alalias.

Design of a research

At the first investigation phase 620 children, aged from 2 till 3 years were examined. At clinic-psychopathological assessment of a state in a research 180 children (the main group) whose speech disturbances could be estimated as a delay of speech development were selected. Further observation of these children was made for 4 years, detailed examination was conducted 2 times a year. The group of control was made by 96 children whose speech met age standards. At the second investigation phase for assessment of efficiency of touch and integrative methods in correction of speech frustration the main group was divided into two subgroups: 1 subgroup – 100 people and the 2nd subgroup - 80 people. In the first group unlike the second methods of non-drug correction, touch and integrative techniques were applied.

Criteria of inclusion: existence of delays of speech development, constant visit of kindergarten.

Criteria of an exception: existence of heavy somatic pathologies, the diagnosed serious neurologic illness, the verified hearing disorder, the accompanying rough deviations in the motor sphere, frequent and long diseases, refusal of participation in long inspection.

Material and methods

180 children (70 girls and 110 boys) for whom at the time of the beginning of visit of kindergarten (middle age 2.7) the delay of speech development

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was diagnosed are examined. The control group was made by 96 children (50 boys and 46 girls, middle age 2.8) at whom at the time of visit of kindergarten speech development met standard. The research was conducted from 2011 to 2018 on the basis of city preschool educational institution of kindergarten of the combined view No. 93 of Vyborgsky district of St. Petersburg. Conditions of kindergarden allowed to provide dynamic observation of children from the receipt moment in kindergarden before release.

Examination was conducted by means of the analysis of anamnestic data, the semi-standardized questionnaire for parents, clinic-psychopathological assessment of speech development and behavior of the child in group, experimental and psychological inspection, assessment of a touch profile (SSP) [8]. The semi-standardized questionnaire included itself questions of the pregnancy course, childbirth, development on the first year of life. For clinic-psychopathological assessment of behavior the method of situational clinical observation of the child in group and in survey situations and also his behavior in the light touch room was used. The method of situational clinical observation was complemented with the contextual analysis. The last represents discussion with parents and teachers of character and the reasons of children's behavior (As how it does now? Why? etc.) [9].

Result and discussion

At the time of the beginning of visit of kindergarten at 180 (29.0%) from 620 children the speech arrest of development was diagnosed. From them at 81 (45.0%) the speech was absent completely. At 99 (55.0%) there were only separate words. At 340 (54.8%) children the speech met age standards, from this group the group of control of 96 people was selected. Features of course of pregnancy and childbirth in the main and control group are provided in table 1.

Table 1

Features of course of pregnancy and childbirth

Features of pregnancy and childbirth	Main group		Control group		Reliability
	Absolute	Relative (%)	Absolute	Relative (%)	
1 pregnancy	108	60	60	62.5	χ^2=0,164 p=0,685
2 pregnancy	63	35	29	30.2	χ^2=0,647 p=0,449
3 pregnancy	9	5	7	7.3	χ^2=1,997 p=0,378
Toxicosis of 1 half	150	83.3	81	84.4	χ^2=0,050 p=0,829
Toxicosis 2 half	49	27.2	20	20.8	χ^2=1,343 p=0,581
ARD during pregnancy	56	31.1	33	34.4	χ^2=0,305 p=0,581
Long waterless interval	18	10	5	5.2	χ^2=1.882 p=0,170
Rapid childbirth	10	5.5	4	4.2	χ^2=0,215 p=0,616

Reliable distinctions on course of pregnancy and the perinatal period were not revealed.

At assessment of a touch profile found out what of parameters have typical performance or the distinct distinction is noted. Data are provided in table 2.

Table 2

Sensory profile of the examined patients

Parameters	Main group		Control group		Reliability
	Absolute	Relative (%)	Absolute	Relative (%)	
Tactile *sensitivity*	81	45%*	18	18.7 *	χ^2=17,220 p=0,001
Sensitivity *flavoring/olfactory*	23	12.7%	14	14.6	χ^2=0,176 p=0,675
Motive *sensitivity*	36	20%	26	27	χ^2=1,84 p=0,179
Touch search	61	33.9%*	14	14.6 *	χ^2=11,791 p=0,001
Acoustical filtration	90	50%*	32	33.3 *	χ^2=7,051 p=0,008
Low power *resource*	23	12.7%	14	14.6	χ^2=1,927 p=0,382
Visual, acoustical *sensitivity*	36	20%	18	18.7	χ^2=0,062 p=0,803

Note. * - statically reliable distinctions (p <0.05).

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Children with speech frustration showed distinct distinction on the following indicators authentically more often: tactile sensitivity, touch search and acoustical filtration.

Further, according to design of a research, the main group was divided into two subgroups: 1 subgroup of 100 people in which, along with traditional ways (logopedic correction, medicamentous therapy), for a year also touch and integrative correction, and the 2nd subgroup (80 children) where only traditional ways were carried out were carried out. During the work with children of 1 subgroup methods of touch and integrative exercises were added to a complex of correction. Exercises were carried out daily by teachers of kindergarten and parents of children of the main group in house conditions. A set of exercises, the tactile incentives directed to improvement of shipping: "Where now cat?", "Immersion in unknown", "Find couple to the touch", "Whose palm", "A back to a back", "Guess figure to the touch", "A tactile path", etc. Exercises for stimulation of acoustical feelings: "Quietly-loudly", "Define what is heard", "The rustling boxes" and others. Also kinesiological exercises were entered: ear nose, ringlet, fist-edge-palm, lazy eights [10, 11]. Before correction and after carrying out a set of exercises at children the following parameters were estimated: self-control of behavior, understanding and implementation of the audial instruction, speech frustration, change of parameters of psychological development (memory, attention, readiness for school). These observations are presented on figure 2.

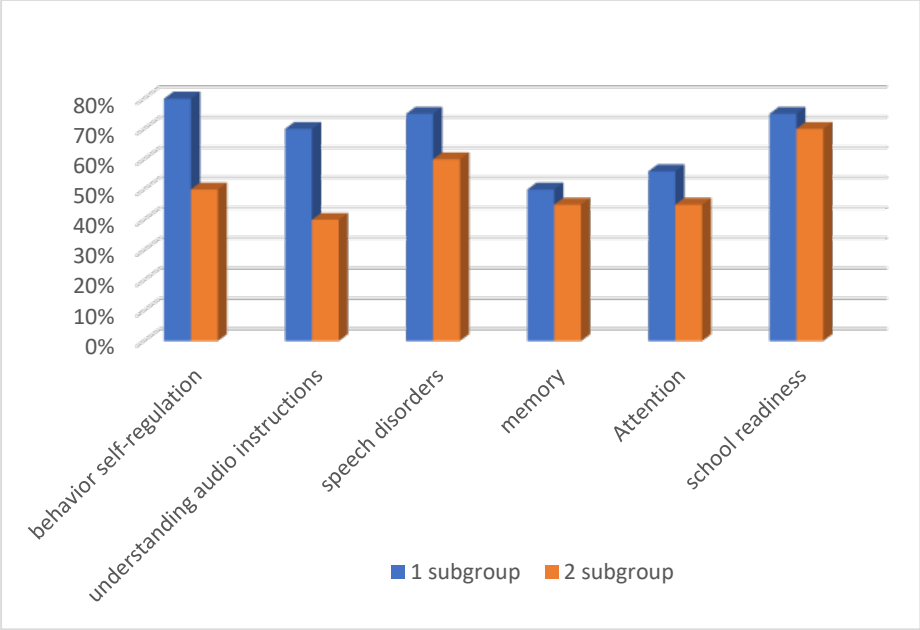

Figure 2. Results of influence of touch and integrative methods

In group where classes with use of touch and integrative methods were in addition given, understanding of the audial instruction (χ^2=16.290, p <0.001), self-control of behavior authentically improved (χ^2=16.675, p <0.001), manifestations of speech frustration decreased (χ^2=4.621, p =0.032). On indicators memory, attention and readiness for school is noted a positive trend, but distinctions do not reach statically significant reliability.

According to our research accrescence of speech frustration from 2010 to 2018 is noted that corresponds also to literary data. It is not possible to allocate one factor of this regularity, considering complexity of the phenomenon - the speech. Statistically reliable differences, on the course of pregnancy and the perinatal period at group of children with speech frustration and groups of children with speech development meeting age standards it was not succeeded to reveal. At assessment of a touch profile of children with speech frustration statistically significant differences on the following characteristics are

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revealed: tactile sensitivity, touch search and acoustical filtration. Clinically tactile sensitivity was shown in avoiding of others touches; extremely negative reaction to washing of the person and head, to clothing; intolerance defined clothes from rough textures; difficulties at immersion of fingers in sand; fault-finding to temperature and consistence of food that indirectly affected behavior and an emotional background of children with speech frustration. Difficulties of monitoring the behavior, superexcitation during the outdoor games, the constant movement of any part of a body (a hand, a leg), aspiration to tactile contact (excessive enclasping of people around) were clinical manifestations of touch search that also increased quantity of behavior disorders at children with speech frustration. Clinical manifestations of acoustical filtration included: difficulties when determining a source of a sound; periodic misunderstanding of the turned speech; difficulties at repetition of words; high sensitivity to noise. These disturbances prevented children to work effectively at group and subgroup occupations. Inclusion in work with children with speech frustration of touch and integrative methods showed a positive take. Statically significant were changes in understanding of the audial instruction, self-control of behavior, manifestations of speech frustration decreased. Understanding of the audial instruction and self-control of behavior leads to the best digestion of material not only at individual, but group occupations that does all occupations by more effective for children with speech frustration. Also decrease in manifestations of behavior disorders is noted that often is comorbid pathology at children with speech frustration.

Conclusions 1. Growth of speech frustration in children's population is noted: in 2010 - at 10% of the examined children, in 2018 this indicator was 29%.

2. From 180 children with delays of speech development at 81 (45%) the speech was absent completely, at 99 (55%) there were only separate words.

3. At children with speech disturbances in the analysis of a touch profile came to light tactile sensitivity authentically more often (χ^2=17.220, p =0.001), touch search (χ^2=11.791, p =0.001) and acoustical filtration (χ^2=7.051, p =0.008).

4. Inclusion in work with children with speech frustration of touch and integrative methods showed a positive take. Statically significant were changes in understanding of the audial instruction (χ^2=16.290, p <0.001), self-control of behavior (χ^2=16.675, p <0.001), manifestations of speech frustration decreased (χ^2=4.621, p =0.03

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