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## Correction Of Sensorimotor Functions Of Pre-Lingual Children With Cerebral Palsy In The Context Of Lekoteka

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### Abstract

Abnormalities of mental and speech development in case of childhood cerebral palsy are substantially caused by the absence or deficiency of children's activity, lack of sensomotorika development, i.e. of motor and sensor components intercoordination. The necessity of an early serial impact beginning based on the safe functions results from the characteristics of childhood brain - its plasticity, universal ability to compensate disturbed functions, and also from the understanding that child's first three years of life are the most optimum terms of sensorimotor skills and functional verbal system maturation. We have developed the program of sensorimotor functions stepped correction of pre-lingual children with infantile cerebral palsy. The content of the program is focused on the formation of life competences, significant for socialization of children affected by infantile cerebral palsy.

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### 1. Introduction

The problem of infantile central palsy is rather pressing today. In the last 15 years there has been observed the tendency for increase of patients suffered from this disease. So, if in 1992 the incidence rate was equal to 0, 17 cases per 1000 people, today in different regions of the country it makes from 2, 5 to 8 cases. Infantile cerebral palsy (ICP) is non-progressive cerebropathy affecting those parts of brain that are responsible for movements and positions of the body. The disease appears at early stages of brain development. Clinicians in their researches note that children with organic brain damage have a delay of psychomotor system development, in particular, at an early stage of ontogeny. Motor, sensory and speech impairments become significant reasons of mental impairments, which arise due to a failure of practical experience of children with cerebral organic deficiency, and small communicative experience as well. The characteristic feature of infantile cerebral palsy dysmotility is that children

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are born with it, and it is connected with sensory disabilities. In particular, it is the lack of one's own movement perception that can act as the leading defect, and be presented by a peculiar abnormal development of motility which without correction and compensation can become the reason of negative effect on the subsequent course of child's neuropsychic formation. The process of all motor sphere formation of children with cerebral palsy is delayed or impaired: holding of head, ability to sit, stand, walk, manipulative activity. Motor defects may be expressed differently: they may be so heavy that the child is completely deprived of the opportunity to move freely; if the range of motions is sufficient, the muscle tone is mildly disturbed there may be dyspraxia; self-care skills development is associated with difficulties. Large variability of motor function formation in terms of time is connected with the form and severity of illness, intellectual parameter and time, when the regular therapy – the correction of impaired functions began.

## **2. Early sensory-motor functions correction of children with cerebral palsy**

In recent years in Russia early children's cognitive activity and language behaviour impairment diagnostics has become the focus of increased attention. The early beginning of correctional and pedagogical work (during the first 3 years of life) promotes the maximal use of compensation abilities of a child's body: brain flexibility, sensitivity to stimulate mental and speech development, ability to compensate impaired functions as the most optimum terms of sensorimotor skills maturation are the first three years of child's life. Nowadays, early clinical diagnosis and correction of cerebral palsy is getting more and more into practice. As the foundation of child's cognitive function formation and general mental development is sensomotorika - intercoordination of sensory and motor components of activity, the particular importance of child's development in this direction should be noted. Despite the fact that in the first few months of life the pathology of pre-lingual development can be detected, development stimulation and abnormalities correction in most cases begin only in preschool years (after 3-5 years), when a persistent pathological stereotype of motor and mental disorders has been formed. Thus, the sensitive period of speech development, sensorimotor processes which falls on the first 3 years of child's life is missed. In this case, the work is mostly often aimed at the correction of already developed speech and mental defects instead of their prevention. However, in Russia there has not been developed the stepped system of work aimed at the correction of sensorimotor functions abnormalities at an early age. Not all rehabilitation centers in Russia are ready to accept infantile children with cerebral palsy. Some of them take children since the age of 3, others – with certain developed skills. Therefore, we often observe the situation when parents with young children having infantile cerebral palsy have nowhere to look for help; there are no specially created conditions for activities with them. And in this situation, Lekoteks are the most promising options of rehabilitation. Russian model of Lekoteka was developed and introduced in Moscow in 2001 with the financial support of US agency for international development (AID of the USA) within the program "Help for orphaned children in Russia", which is carried out together with "Holt International Children's Services" and "Charities Aid Foundation". Lekoteka is a service of psychological follow-up and specific pedagogical help for parents bringing up children with expressed abnormalities and problems of development. It implies weekly free individual activities for children with the logopedist, speech pathologist, psychologist. The research conducted by us in 2011-2013 allowed to analyze the effectiveness of early sensorimotor functions correction of children with infantile cerebral palsy in the context of Lekoteka.

## **3. The content of sensorimotor functions correction program of infantile children with cerebral palsy in the context of Russian Lekoteka**

The analysis of author's methods, practical designs by Arkhipova (1991) and Prikhodko, Eidinova, Vinarskoy and Kalizhnyuk, (2012) allowed us to develop sensorimotor functions correction program of infantile children with cerebral palsy, based on the creation of the complete compensatory impact system at early stages of the development. The research goal is to work out a program aimed at sensorimotor sphere formation and development of infantile children with cerebral palsy, in particular, to create main forms and methods to form and develop the sensorimotor sphere in order to prevent pathological stereotype formation by the school age. The hypothesis of the research: the early beginning of correction-developing work with children with cerebral palsy creates optimum conditions for sensorimotor sphere formation and development and promotes the due time and appropriate development of cognitive sphere and skills of social adaptation in case of physical activity limits in the context of

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