

## **ASPECTS OF MULTI-SENSORY ENVIRONMENTS IN FAMILY-ORIENTED EARLY CHILDHOOD INTERVENTION**

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### **Abstract**

The paper discusses the aspects of multi-sensory environment supporting development of children in the context of family-oriented early childhood intervention for children with risk development or disabilities and their families. It presents the relationships between sensory perception, impairment and its support in a multi-sensory prepared environment, and the role of the professional case manager working with the family in early childhood intervention services providing this type of support. The authors present the outputs from their research in the conditions of the Slovak Republic conducted in a prepared multi-sensory environment with several families receiving the social service of early childhood intervention. Through a qualitative analysis of interventions aimed at supporting sensory perception of children whose abilities are impaired in this area, the researchers explored the supportive aspects of multi-sensory environments and the benefits this type of intervention can bring to the child and their family. The concept of early childhood intervention considers the child's family system and provides support not only for the development of the child but also for the needs of the family as a whole in the context of the family roles, everyday routines, inner and outer resources as well as potential barriers. The intervention is provided in a partnership of the family with a multi-agency supportive collaborative team of professionals from the health care, education and social sector. Therefore, in the family-oriented early childhood intervention services, the multi-sensory environment becomes also a place to support parental competencies so that the parent, as the greatest expert on their child, has the opportunity to discover their competencies, strengthen them and transfer them for the use in everyday activities. The paper is a partial outcome of the project VEGA 1/0598/17 Evaluation of The Effective Factors of Multisensory Approaches in Therapeutic Education.

**Keywords:** multi-sensory play, early childhood intervention, family

## **1 FAMILY-ORIENTED EARLY CHILDHOOD INTERVENTION**

The birth of a child whose development is at risk poses a difficult life situation for every family. Managing this crisis situation depends on a number of factors, including the atmosphere of the first three years of family life with the child. During this period relations are created that in the first years of life acquire the character of adhesion and thus become a model for all other human relationships during life. Just as each child represents a unique personality with their rights, strengths and weaknesses, each family is a system in which the child's strengths can be discovered and supported, and weaknesses need to be respected, accepted and

the areas strengthened. The essence of family the visits by the intervention team is to help the family and the child fill and match their needs.

Identifying the primary needs of parents and their children at risk of development or disability thus presupposes a thorough knowledge of their family background, customs, traditions, but also ways of looking at and educating the child.

The birth of a child with complications does not convey the usual pleasures of parenting or celebrated rituals in the family. The concept of being a parent with a disability is not part of the family's preparation for motherhood and parenthood, and this novel experience greatly undermines the stability of the family as a whole. An unstable family system does not allow the family to understand the situation in which it finds itself, and to accept it, which subsequently endangers the acceptance of the child. Such a family is looking for information, asking questions, trying to orientate, trying solutions, experiencing disappointment, waiting for success and looking for support. The basic needs of a family of a child with a disability or risk of developing an early age include (Tichá, 2014) :

- To provide family support regarding the child's developmental risk;
- To emphasize early parental information on the diagnosis of the child;
- To provide support to all family members (mother, father, siblings, wider family);
- To be an equal member of the team of experts;
- To familiarize families in the same life situation and to let them share their stories and advice;
- To support the internal resources of the family and the ability of parents to understand their own child;
- To understand, accept, and let live the role of the parent;
- To provide support for family, in family and with family.

For a family with a child with developmental complications, it is especially important in this case to get sufficient information about the issue, get support from an expert, and plan additional help options. That is a key moment for family counselling. Prevendárová (2001, p. 15) describes family counselling as a process that allows:

- The best possible orientation in their situation;
- Optimizing the functioning of the family system;
- Optimizing the life of each family member.

It is for these reasons that professionals need to focus on early support. Despite the different starting points in individual countries, the definition of early childhood intervention in Slovakia and abroad encompasses several key elements (Tichá, 2017):

(1) Early care refers to the whole range of services for the family and the child with a disability or at risk that integrates various measures and forms of support.

(2) Early care is aimed at the whole family of a child with disability, threat or disruption due to biological factors or environmental factors.

(3) Early care is provided in relation to the child as a result of interactions between the parent and the child. The goal of early care is to support these interactions.

(4) Early care services are based on the analysis of the individual needs of each family and are aimed at supporting the family and supporting the development of the child with regard to their needs.

(5) Early care is aimed at children at risk from the assessment period (including identification of a disability or risk to the child during prenatal development) until the reasons for providing early care services cease to exist.

(6) Early care is an on-site service, provided primarily in the family environment, in the form of visits by a home counsellor (at least 75% of the consultation takes place in a family environment).

(7) Early care integrates the concept of prevention as part of the early care process in the primary, secondary and tertiary levels. The preventive nature of early care consists in preventing secondary damage. Secondary disability is usually a manifestation of the child's disturbed attachment to their surroundings.

(8) The economic benefits of early care gradually enable parents to be independent of the institutions and be able and competent to deal with the situation of the child with minimal external support.

### 1.1 Research Study

First research study in the region on the state of play of early childhood interventions was conducted with support of the European Initiative for Competence in Early Intervention project, implemented from 2013, and is now continuing with further follow-up research. After the understanding of the current situation was established in the conditions of the Slovak Republic by the first three the Centres for Early Childhood Intervention, they continue in other district towns where three more centres were created.

In the area of early childhood intervention, various procedures have been put in place to maximize support for child development and family competencies, including a combination of different methods and intervention strategies. The concept presented and analysed in this study is designed to support sensory perception of a child through a prepared environment that provides multi-sensory stimuli.

The research sample consisted of children in early childhood, from 0 to 7 years of age, who have risky, endangered development and are recipients of early childhood intervention services in Slovakia. In addition to identification of problematic areas, the research was focused on the analysis of sensory perception activities that can be applied directly in the family environment of the child and with the child's parent providing necessary stimulation, based on the current state of the child and the family's possibilities, also including the financial situation.

On the basis of the research project, focused on the context of multisensory aspects as a support for the early development of the child, we focused on identifying support means in individual areas of sensory systems – visual stimulation, hearing stimulation, perception of space and multi-sensory perception (Tab 1). Described areas can be promoted directly in the child's family environment.

Areas of sensory perception	Use of specific strategies
Visual stimulation	<ul style="list-style-type: none"> <li>- contrasting colours</li> <li>- appropriate illumination of space, important objects</li> <li>- using glossy materials against light, choice of fluorescent luminescent colours</li> <li>- choosing large and simple contrast patterns in a larger area</li> </ul>
Hearing stimulation	<ul style="list-style-type: none"> <li>- physical contact</li> <li>- speaking from a distance, approaching and touch</li> <li>- describing and commenting on everything</li> </ul>
Perception of space	<ul style="list-style-type: none"> <li>- the limits of the body</li> <li>- the perception of self</li> <li>- the perception of time</li> </ul> <p>the perception of space</p>
Integration of senses	<ul style="list-style-type: none"> <li>- providing visual, auditory or touch stimuli</li> <li>- providing auditory or touch inputs</li> </ul>

Tab 1 – The areas of sensory perception

We have provided an intervention as described in the table and have watched children for a long time. Qualitative observation and interviews with parents, bad connection to the course of intervention provided by experts and parents alone in day-to-day activities. On the basis of the findings, we have created

recommendations for the stimulation of sensory stimulation in the individual systems that are important for further work in the early childhood intervention.

## **1.2 Research Results**

Provided stimulation in sensory systems described above was observed over a period of ten months (2017-2018) with several families that were using parts of the sensory stimulation early childhood intervention programme. The observations were qualitatively analysed and supplemented by feedback from the professionals and parents about their experience with the sensory stimulation of the child in prepared intervention situations and in activities of daily living. Based on the research results, recommendations for applying stimulation in early childhood intervention were summarised.

**Visual stimulation** is a method of developing a child with multiple disabilities with early vision impairment and the use of visual remnants. Early development of a child is a period in which nervous paths develop rapidly and the nervous system matures. It is a period in which it is possible to intensely support the development of vision pathways and the processing of visual perceptions. Sufficient stimulation at an early age is critical to the quality of visual perception later in life. For this reason, every usable rest of sight is very important, so it is advisable to begin to stimulate the child's vision from the time of finding the disorder. By visual stimulation we strive to maximize the development of the remaining functions and their maximum possible use in the everyday life of the child. It is also important for a child to use the ability to distinguish between light and dark, the direction from which the light comes, where the shadow appears, the knowledge of some colours and shapes. Visual stimulation is recommended for all children who have a severe visual impairment since birth or have had it shortly after birth. For most children, physicians have the ability to very poorly determine the degree of visual impairment, and it is therefore appropriate for visual stimulation to be provided to all children who appear to be totally blind. Efficacy of visual stimulation increases in early and pre-school children, children with central vision impairment and multiple disabilities (Skalická, 1998).

For visual stimulation activities, it is necessary to choose the child's optimal position, to provide enough time and wait for a child's response, to integrate training into the daily routines of the child, while the activity must be fun for the child. It is important not to encourage the child to provide incentives until they are of interest to the child and to give the child enough rest without a stimulus.

**Hearing stimulation** – a child with a multiple disability in early age, especially in the presence of a visual disorder, needs to learn to hear. Difficulty concentrating can be present because the child does not have enough hearing experience. For children with visual impairment, all sound signals from the environment are important.

In the first few months of life, working with a voice for a child is as important as physical contact. Towards a child with a vision disorder, we speak from a distance, approaching closer and touching from the side. We describe and comment on everything that is happening around the child, all the sounds that can be heard. Sounds have a meaning for a child if the attention is brought to it and connected with actions or objects.

**The perception of self** and its place in the area of early-aged children is closely related to communication, the perception of time and the awareness of one's own ability to change and influence the surroundings. The perception of the body and its parts is largely influenced by stimulation, especially for children with limited movement opportunities and/or sensory impairments. We perceive parts of the body as the trunk or the extremities also because we check their existence by sight. For this reason, it is necessary for a child of the early age to recall these body parts by massaging, touching various objects and materials, or by placing the Velcro toys to the point where the child seeks to remove them, which makes them interact with their own body parts. The perception and differentiation of the space is to a large extent determined by the distinction between the activities that the site offers or the toys that belong to a certain space (for example a toy in the bed and so on). A child's attempt to touch an object outside of his or her own body may often be the first awareness that the world continues beyond the limits of their own body, particularly in children with visual impairment.

**Integrating senses** – the child initially moves accidentally, but when he or she receives a visual, auditory or touch response, he or she moves with a certain intention, expecting a result and begins to repeat it. A blind child does not get enough visual rewards for their movements, so the child stops performing them. It is important to bring the child in touch with other senses, because this connection makes movement meaningful. Just as we pay attention to the hands, we stimulate the lower limbs so that the child gets an acoustic or touching response (for example, a scraping paper on the legs, the child puts their legs on the drum) on each leg's movement.

### **1.3 Conclusion**

Comprehensive stimulation of the development of a child with risk or early disability requires the presence of a transdisciplinary team that includes the child's family. Only in partnership with the family is it possible to support the development of the child in order to achieve the maximum possible competence. The choice of any child-oriented approach that is provided only to the child and the promotion of their development is not sufficient if this approach or philosophical direction is not a choice of the family. If the family does not believe it, it does not take it into its life or cannot actively participate in it.

Insufficient support from the family is due to shortcomings in the search for forms of assistance. Otherwise, it may be a disproportionate search for professional care, from constantly comparing results, effects, using alternative forms of aid to charlatanism. It is important for the child's family to be informed about the importance of their presence in the child's critical situations. Among important strategies for developing family competencies, we include support for family autonomy. Family needs to be accepted as an independent unit that has the right to decide on important family issues. Parents often fail to use pacing methods, so another area of parenting is the practice of using pacing methods.

On the basis of the data we have obtained, we have identified the objectives of early intervention aimed at supporting the family as a complex unit:

- To support parents in their ability to cope with the difficult situation associated with their child's disability.
- To strengthen family competencies and reduce their dependence on social systems.
- To create conditions for social integration for the child, family and society.
- To provide the family with relevant information, not advice.
- To provide information clearly, without jargon and in various ways (oral, pictures).
- To share information in a sensitive and confidential manner.
- To provide information relevant to the culture of the family.
- A child's diagnosis is only necessary to report to a close family.
- To provide the family with various opportunities to share information and ask questions in a crisis situation.
- To lead parents to communicate directly to describe their own feelings of insecurity, concern and family priorities.
- To encourage the family to be targeted at counselling meetings with experts in the form of specific questions and consistent records of the child.
- To provide the family with enough time to make a decision and take a final attitude before choosing a specific direction of intervention.
- To encourage families to write notes or make audio and video recordings, which can help some families to process the obtained information and share it with other family members, who were not present at the advisory meeting.
- To provide parents with assistance in learning appropriate responses to child behaviour.
- To provide information on the offer of compensatory aids and available devices for children with disabilities.

Parents also need emotional support for the child, but also the possibility of their own mental health support. If these processes fail, they prevent the effectiveness of the intervention strategies used. The task of early childhood intervention is, in particular, that the promotion strategies become embedded in daily rituals in the family, which will become a natural part of the family life. The main idea is to teach the family to use their own competency resources and strategies. The role of the expert is, in particular, to support the family as a whole, to perceive them in partnership and with respect to their real survival.

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