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**Title:** Case study as a functional tool in early intervention

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**Citation style:** Li Xinrui, Potměšil Miloň. (2019). Case study as a functional tool in early intervention. "Psychiatria i Psychologia Kliniczna" (Vol. 19, iss. 2 (2019), s. 232-236), doi 10.15557/PiPK.2019.0024



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## Case study as a functional tool in early intervention

### Studium przypadku jako narzędzie wczesnej interwencji

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**Abstract** The article describes the functioning of the family and family environment of a disabled child and early intervention activities. Professional psychological or special educational support focuses on the strong and weak areas of the family. The emphasis is on the need for effective family communication as well as communication with professionals. The authors stress the importance of follow-up care as well as the social protection of children and other family members.

**Keywords:** case study, child with disabilities, early intervention

**Streszczenie** Praca opisuje funkcjonowanie środowiska rodzinnego dziecka niepełnosprawnego oraz proces realizacji wczesnej interwencji. Profesjonalne wsparcie psychologiczne oraz w zakresie pedagogiki specjalnej koncentruje się na mocnych i słabych stronach danej rodziny. Autorzy podkreślają potrzebę skutecznej komunikacji w rodzinie oraz komunikacji ze specjalistami, jak również znaczenie opieki kontrolnej oraz ochrony socjalnej dzieci i innych członków ich rodzin.

**Słowa kluczowe:** studium przypadku, dziecko niepełnosprawne, wczesna interwencja

At present, a topic that is much discussed in relation to health impairments in children is the amount of special pedagogical, social, and medical support. These three pillars should be established to form a stable base for the healthy physical, psychological, and social development of children suffering from health impairments. The notional fourth pillar, which is not specifically defined in this context, is the family. The family of the impaired child is still considered as one of the major factors affecting the child's development in the context of the development of the necessary competences for integration into society in adulthood (Heiman and Berger, 2008). The family, with its basic functions as they are usually defined, represents the assumed basis whose quality and effectiveness are reflected in the child's life and therefore also in its school work and success (Wallander et al., 2014; Zwönitzer et al., 2015).

It is very difficult to separate the effects of individual factors and describe them individually because their interaction with external factors (such as medical, psychological

or special pedagogical support) is functionally a highly complex process linked to the psychosocial development of the child. The individual developmental components cannot be simply separated and studied in isolation (Robert et al., 2015).

It is necessary to describe some of the major roles of the family as the background for the development of every child. One needs to bear in mind the fact that some children with disabilities have to attend residential educational facilities and sufficient conditions are also expected in such an environment.

The quality of life of the particular family is a very important parameter (Balcells-Balcells et al., 2016). An intervention must respect the basic principles such as communication and core knowledge and skills as described in the paper by Yoshinaga-Itano (2014). It is assumed that the set of roles of the family will be transformable to the requirements to be placed on special preschool institutions and later on schools to assure conditions for the healthy psychological development of the child (Zand et al., 2015).

## CASE STUDY

As an example of good practice, we present a case study that shows the appropriate step-by-step approach of integrated care focused on the family of a child with disabilities (Li and Potměšil, 2016). Peter (pseudonym), male, was five years and five months old. He suffered foetal distress as a result of hypoxia. He was in hospital for more than 40 days because he suffered from congenital laryngeal asthma and aspiration pneumonia, and the doctors considered him critically ill at that time. The boy's critical condition resolved; however, three months later, Peter's parents suspected that their child had some further medical problems and took him to a maternal and child healthcare hospital for examination, which led to a diagnosis of cerebral palsy. Before Peter was seven months old, he suffered a cold every month on average and was in hospital with pneumonia. When he was one year and one month old, he began receiving physical therapy in a children's hospital, with hyperbaric oxygen and electromagnetic wave therapy at the same time as well as a traditional acupuncture treatment in a private clinic. When he was three years old, he was checked for epilepsy, which the doctors confirmed. Peter lives with his parents, grandmother, and uncle. Their house is located in the main district of the city, which is also a central business district with heavy traffic and a noisy environment, but the transport infrastructure is quite convenient. His father, with a junior college degree, works at a cultural and educational institute in this city, while his mother, with a middle school qualification, resigned from her job in order to look after him at home and is responsible for his education and rehabilitation. His father helps to look after him in his free time after work. Peter's parents pay great attention to his educational training and his mother is quite active in seeking public welfare resources and buying toys and books for him to have a good education and rehabilitation.

### UNDERSTANDING PETER AND HIS FAMILY

Family-centred assessment was adopted in the case study, aimed at determining the actual situation regarding the strengths, interests, concerns, and special needs of Peter and his family. The procedure of measurement is a continuous systematic procedure involving multidisciplinary team cooperation. Curriculum-based assessment was adopted by selecting the Portage early education instruction manual of Wisconsin, US, as a reference, which is used to understand the ability level of children in all developmental fields of self-care, gross motor and fine motor skills, language, social behaviour, and cognition. In addition, ecological assessment was performed through the Daily Routines and Activities Analysis Form. In the assessment of Peter's cognitive characteristics,

the Neuropsychological Development Diagnosis Scale of Children Aged 0–6 Years and the Denver Development Screening Test (DDST) were used to understand his developmental level and the Children's Temperament Assessment Sheet was selected to understand Peter's temperament level. The characteristics and requirements of the family were investigated through a family visit, survey of family interests, family environment questionnaire, and survey of parent characteristics.

### SUMMARY OF PETER'S PRESENT ABILITIES, STRENGTHS, AND NEEDS

Peter has normal hearing, strong farsightedness, and ptosis of the upper eyelid. He suffers from cerebral palsy; after being diagnosed with epilepsy at three years old during a follow-up visit, on the basis of the doctor's advice he started to take medicine and now his disease is well-controlled. Doctors think that eyesight problems will affect his visual learning and recommend ptosis correction surgery as well as wearing glasses to correct his eyesight. Cerebral palsy and epilepsy can affect his motor skills, self-care abilities, cognition, and development of language and other areas of capacity; therefore, it would be better for him to receive special education and rehabilitation.

Peter's total score on the Neuropsychological Development Diagnosis Scale of Children Aged 0–6 Years is 108 points, with a development quotient (DQ) of 21.6 points. The results of curriculum-based assessment indicate the following: in the area of self-care, Peter is assisted by his parents; he can eat with a spoon, drink independently with dual-handle cups, and cooperate in getting dressed, washing his face, and cleaning his teeth. In the motor area, Peter can control the position of his pelvis. He can stand with the assistance of caregivers' hands or supporting objects and also walk with the support of adults.

He does not like to grasp objects with his hands and will throw them away. In the social area, he will explore the environment positively and play on his own, making noises to catch attention. He can play with other children or adults and obey the rules of a game. In the language area, he can repeat what others say and call family members (repeating a two-syllable name such as "mama" or "baba"). In the cognition area, he can draw and write on his own, and with help he can perform simple operations on toys and clay. His abilities in obeying orders, matching, classification, and recognising pictures remain to be further developed. All in all, Peter's physiological age is five years and five months, but the developmental stages of his language, social, and adaptive ability are approximately those of a two-year-old. The level of his motor development is significantly lower than that of the general population, and his abilities in the areas of self-care, motor skills, language, social behaviour, and cognition remain to be further developed.

## SUMMARY OF THE FAMILY'S CHARACTERISTICS, NEEDS, AND RESOURCES

Peter was mainly taken care of by his mother in daily life and rehabilitation, in addition to regular evaluation of his physical therapy results and short-term treatment at a children's physical therapy centre. His mother is outgoing and communicative and can directly face the problems that exist for her son and actively look for social welfare resources; she is willing to absorb good educational methods and rehabilitation techniques. The family has a harmonious atmosphere and good relations with the neighbours, who meet and greet them in a friendly manner. The Disabled Federation and Residents' Committee often provided care and support for this special family, but they were lacking in professional support. Interventions should be based on interdisciplinary cooperation as an essential requirement to ensure family stabilisation (Coufal and Woods, 2018). Peter's education and rehabilitation needs were the key need of this family. His parents wanted to learn some techniques and rehabilitation methods to strengthen their child's development.

## IMPLEMENTATION OF AN INDIVIDUALISED FAMILY SERVICE PLAN FOR PETER AND HIS FAMILY

According to the characteristics of the family environment and Peter's special needs, the relevant professionals, in collaboration with his parents, conducted a comprehensive analysis of the results of the partial evaluations (Li and Potmėšil, 2016). The analysis was taken as the basis for an Individualised Family Service Plan (IFSP) meeting. A home coordinator, who made a home visit, wrote a draft IFSP according to the suggestions of neuropsychologists, a physical therapist, family members, and other people involved in the evaluation and made appropriate changes or additions after consultation with Peter's parents.

The family activity design model is mainly objective-oriented; the home coordinator and parents pick some goals from the IFSP together. For example, if the teaching target is using a spoon to scoop food up, they discuss what situation will be used to guide family members or what activity can be designed to achieve this goal. On the basis of Peter's learning characteristics, the home coordinator guided his mother to analyse one objective and divide it into several small targets and steps and plan the teaching activities in small steps. Meanwhile, in order to enhance the interaction between Peter and his family members and improve their parenting, the home coordinator would guide Peter's mother to create a family environment and design family activities. The home coordinator would evaluate the objectives completed in the IFSP in order to determine the level of the implementation of the IFSP.

## RESULTS OF THE CASE STUDY

According to the evaluation of the IFSP, the completion rates of two of the general objectives of the IFSP are 18/25 and 13/19 (the denominator is the total number of smaller objectives and the numerator is that of the objectives that were completely achieved). The curriculum evaluation shows that Peter has made great progress in all developmental areas after receiving family-centred services, with a big change in his daily life and learning, and with a positive routine gradually being established. With regard to the changes in Peter, not only the home coordinator and Peter's parents, but also the professionals who examined Peter, had consistent observation and evaluation results.

Through demonstration and guidance by the home coordinator, Peter's mother mastered a variety of teaching methods and solutions to her child's common behaviours and made the best use of family resources to carry out educational activities and rehabilitation exercises. The interventions focused on the object of the study but in general terms, they also require the application of all the principles that reduce the mental impact on the mother or both parents and support the effectiveness of their functioning and their cooperation in the intervention (Zwönitzer et al., 2015). The family members reached agreement in terms of their attitudes towards family-centred early intervention services and they cooperated actively. Under the guidance of the home coordinator, they also arranged a suitable living and learning environment for Peter. His parents now have more opportunities to communicate with other families with similar experience and attend parents' training activities and associations to share parenting experience and resources.

## POSSIBLE AREAS OF SUPPORTED PARENTING SPECIFIED BY THE CASE STUDY

**The emotional development** and feelings of the child in everyday life are accompanied by words, facial expressions, and the speed of movements and speech. If children with disabilities do not express comprehensive information on their emotions at all levels, understanding through clear and transparent communication behaviour needs to be facilitated.

The basis for future self-reflection is realising the existence of other people's feelings as reactions to some specific stimuli. Therefore, in the cases when the parent's reaction would be distinct and understandable enough for a healthy child in infancy because it would be accompanied by voice, speech, and their modulation factor, for a child without any option of receiving such a rich message everything visible must be emphasised. This also includes the requirement for greater sensitivity of the parents to the child's behaviour. It is certainly not easy to soften emotional outbursts, especially negative ones, in children with whom it is possible to communicate on a level adequate to their age.

However, when raising a child with disabilities these reactions of violent temper – outbursts of anger – must be prevented before the child actually has a reason for them. By observing the child, and in some cases also by analysing a video recording of behavioural manifestations, the parents can prepare themselves in cooperation with an expert on children so that they can minimise the number of negative stimuli. The interaction between parents and their disabled child is an essential tool for successful intervention (Kohlhoff and Morgan, 2014).

**Motivation** and a motivated child are the major issue in psychosocial development. If the work with a child with disabilities in the family and outside it is to be based on motivation as an important tool, then, already at an early age, it is necessary to set a graspable form of positive feedback. The level of success of the intervention is supported by the degree of motivation to be developed by both parents and children (Saunders, 2017). Considering the young age as well as the disability of the child, it is essential to prepare the parents so that they gradually become capable of preparing various situations in which the child can succeed, and even of making such situations occur repeatedly. It is assumed that enhanced feedback should be provided and that it should take a form allowing the disabled child to interpret it as “praise” (Zand et al., 2015). Motivation is based on joint parent-child activities that provide enough input for the necessary feedback, which is so much needed for both the parents and children involved (Lau et al., 2017).

**A safe environment** and a sense of security are very important in the whole process of early intervention. Especially in a family-centred approach, an environment that shows a high level of safety for participants provides a certainty of the high effectiveness of the intervention (Jones et al., 2017). The parents of children with disabilities should be led to realise that a mistake or a failure is as important as its opposite or maybe even more so. It could be said that everything that is impossible for a child with an impairment must be replaced multiple times with the options of experiments and searching so that the unknown can be spotted, named, and remembered. Thereby a journey can be established where at the end the child does not fear to reflect on its failures and take them as impulses for subsequent planning and for an independent decision-making process. Again, it is necessary to bear in mind that it is a component whose successful foundation is based on functional communication.

The development of the child, if limited by a disability, requires **clear rules** relating to the child’s behaviour, its manifestations, and activities performed independently or with assistance. The rules have to be stated clearly but kindly, with regard to the child’s disability and age. Clearly defined rules facilitate reflection and subsequent self-reflection, and thus allow the child to orient itself in an unknown area. The child therefore has a chance to control its situation and to affect to a certain extent the events which take place in it.

The family should be an environment where the rules are set, explained, and kept.

The process of **decision making and problem solving** is an important precondition for the psychosocial development of the child. Effective communication during the intervention is a necessary basis for the decision-making process, both on the part of the parents as well as on the child’s side (Carlon et al., 2015). Certainly, this part is only one of the pieces forming the complex of self-reflection and potential decision making. Nevertheless, it was shown during the case study presented above that it is possible to prepare cooperative and motivated parents for very effective work with their child.

The case study is also important for providing psychological support. Intervention in these cases requires targeting that is as accurate as possible, an appropriate diagnostic basis, and interdisciplinary cooperation, especially with a special pedagogue.

The cooperation between experts and its formal and content coordination is a key requirement for early intervention, the quality of which fundamentally affects the outcome of the intervention and its initial success, as an important motivating factor (Schwanda et al., 2008).

All the generally recognised target items for early intervention are applicable to the case study presented here to fulfil the following requirements:

1. **Diagnostic** – the family, the child, relationships, weak points in the functioning of the family system;
2. **Intervention-preventive** – support for the functioning of resilience factors, instructions, procedures, situation-solving models, working with healthy siblings and other family members, socialisation, and support for the socialisation competence of the family and its members;
3. **Therapeutic** – support to solve personal problems of the family members, interpersonal difficulties within the family and outside it. Helping family members with solving problems relating to the public and state policy. Therapy focusing on difficulties in the development of the child’s social and communication competences.

#### Conflict of interest

*The activities described in the article were carried out in compliance with the APA Ethics Code; there was no conflict of interests during the research.*

#### Funding/Support and role of the sponsor

*This work was supported by the grant no. IGA\_PdF\_2018\_008.*

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