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THINGS THAT CAN BE CHANGED IN EARLY INTERVENTION IN CHILDHOOD

STVARI KOJE SE MOGU IZMENITI U RANOJ INTERVENCIJI U DETINJSTVU

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Summary

Introduction. Early intervention implies a model of support focused on a child, family and a broader community from early childhood. The aim of this study was to analyze the elements of the successful early intervention in childhood, as well as to assess the role of a special educator and rehabilitator and level of their involvement in implementing the program on the territory of Novi Sad. **Material and Methods.** The study sample included 100 parents of children with disabilities (aged 3-7), who completed the questionnaire designed for the purposes of this research, based on a similar questionnaire design. **Results.** Speech delay is one of the most common reasons (over 50%) why parents seek professional help. By the end of the first year of life of their child, 43% of parents responded that they had noticed the first problems, that is, a problem was identified in 25% of children of this age group, and the same number was included in the treatment. About 55% of children were involved in organized treatment from 3 years of age onwards. Special educators and rehabilitators are usually involved in treatment when the team consists of three or more professionals. **Conclusions.** It is necessary to improve early intervention services, to educate staff, and provide conditions which would make it possible to overcome the existing disadvantages in treating children from an early age. In addition, the involvement of special education and rehabilitation professionals in treatment teams since children's early age is vital.

Key words: Early Intervention (Education); Early Diagnosis; Health Care Facilities, Manpower, and Services; Parents; Child; Child, Preschool; Disabled Children; Questionnaires; Language Development Disorders; Education, Special

Sažetak

Uvod. Rana intervencija podrazumeva širok opseg podsticanja usmeren prema detetu i njegovoj porodici i široj okolini, od najranijeg uzrasta. Cilj istraživanja bio je da se analiziraju navedeni elementi uspešne rane intervencije u detinjstvu, kao i da se ispita koja je uloga defektologa i koliko je uključen u samo sprovođenje programa na području grada Novog Sada. **Materijal i metode.** Uzorak je činilo 100 roditelja dece sa smetnjama u razvoju (uzrasta 3-7 godina) koji su popunili upitnik konstruisan za potrebe istraživanja po uzoru na slična istraživanja. **Rezultati.** Jedan od najčešćih razloga (više od 50%) zbog kog se roditelji obraćaju stručnjacima za pomoć jesu problemi u govoru. Do kraja prve godine, 43% roditelja navodi da su primetili prve probleme kod deteta, odnosno 25% dece je u tom uzrastu imalo identifikovan problem, a isto toliko je uključeno u tretman. Oko 55% dece je uključeno u organizovan rad od treće godine pa nadalje. Defektolog je najčešće uključen u rad kada se radi o timovima sa tri i više stručnjaka. **Zaključak.** Neophodno je razvijati servise rane intervencije, edukovati kadar i obezbediti uslove koji bi omogućili da se postojeće manjkavosti u radu sa decom od najranijeg uzrasta prevaziđu. Pored toga, neophodno je angažovanje defektologa za rad sa decom od najranijeg uzrasta u okviru timskog rada.

Ključne reči: Rana intervencija; Rana dijagnoza; Zdravstveni kapaciteti, ljudstvo i servisi; Roditelji; Dete; Predškolsko dete; Deca sa smetnjama u razvoju; Upitnici; Poremećaji razvoja govora; Specijalna edukacija

Introduction

Over the past forty years, there have been growing concerns and interest in implementation of early intervention programs designed for children

with perinatal risk factors for adverse neurodevelopmental outcome, developmental disabilities, problems in socio-emotional development, children from disadvantaged backgrounds and their parents. In developed countries, the number of children with neuro risks ranges from 10 to 15% [1, 2]. The European network for early intervention proposes an early intervention as a model of support focused on children, families and broader communities from

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the earliest stage of a child's life, with the aim to improve the child's condition and development and assist the family in meeting their child's developmental needs [3]. The program has been designed to include children 0 to 5 years of age. This period is the time of rapid motor, cognitive, linguistic, and social-emotional development [4]. One of the benefits of interventions initiated at the earliest age is the ability to exploit plasticity of the child's brain at an early age, which provides the opportunity to implement a variety of intervention programs that help children acquire and improve a variety of skills at early ages [5–7]. The findings stated by Pinjatela [8] show that the programs introduced nine months after birth have the most positive effects on the subsequent development in children. Early intervention programs relate to children, families and social environment, and beneficial effects they produce can be seen through their implementation.

Based on the knowledge of child's mosaic development and inconsistency of children's response to the same programs, as well as the selection of the program in relation to the type and degree of disability, the effects are expected to be different for each child [9]. The impact evaluation of implemented child-focused programs confirmed their contribution to the social-cognitive development in children, development of their social competence, improved school achievements, reduced dropout and repetition rates, reduced need for special education, continued education, reduced behavioral problems in adolescence and lower abuse of psychoactive substance [5–14].

Parental inclusion, in particular, appears to be of crucial importance as a key factor for successful intervention. Parents are faced with the fact that their child has a problem which may have harmful effects on the later development and learning ability. This situation causes parenting stress related to a sense of social isolation, loss of self-confidence, many crisis situations, changes in the partner and family relationships, as well as health problems, which can all have a negative effect on the child's development [15–19]. Early intervention helps parents to cope with potential frustrations and challenges of parenting children with disabilities [20]. Parent-centered work aimed at strengthening their

parenting potential, self-confidence, improving parental skills, stress reduction, enhancing sensitivity in relation to the child, and his/her abilities and needs has resulted in more effective treatment of children [21, 22]. Parents play a large and significant role in the early childhood period; however, professional related programs in treating the child directly give better results than those relating to indirect treatment and parent-implemented interventions.

In working with children and their families, a team of professionals specialized in a variety of fields carries out the planned therapeutic procedures. The program will be implemented in different types of settings, such as home, various specialized centers and institutions, as well as services that provide support to families. Some common features of the programs that have already been successfully implemented are highly qualified teams, small groups of children and a sufficient number of professionals who work with them, supportive environment, mutual trust and open communication between families and professionals and the child's active role in activities.

Thus, the essential elements involved in the delivery of successful early intervention are reflected in commencing interventions as soon as possible, adequate intensity of interventions, children's inclusion in their treatment conducted by the professionals, parenting support, service provision and various support networks, as well as monitoring and maintaining the results achieved [9]. In the absence of a common approach to an organization of early intervention programs in our setting, there are insufficient resources and a lack of epidemiological data about intervention programs in the childhood.

The aim of this research was to analyze all the presented elements of successful early childhood intervention, as well as to assess the role of a special educator and rehabilitator and the level of their involvement in implementing the program on the territory of Novi Sad.

Material and Methods

The sample consisted of 100 parents of children with disabilities (aged 3–7 years, 35 girls and 65 boys) who completed the questionnaire designed for the

Table 1. The most frequently reported reasons why the child is undergoing treatment

Tabela 1. Najčešće navođeni razlozi zbog kojih je dete na tretmanu

Reasons for treatment /examination/Razlog tretmana	N	%
Speech and language problems/Problemi u govoru	51	51.0
Psycho motor delayed development/Kašnjenje u psihomotoričkom razvoju	40	40.0
Problems in motor skills development/Problemi u razvoju motorike	35	35.0
Emotional problems/Emocionalni problemi	19	19.0
Risk factors at birth/Faktori rizika na rođenju	10	10.0
Intellectual disabilities/Problemi u intelektualnom funkcionisanju	8	8.0
Vision impairments/Oštećenje vida	6	6.0
Hearing impairments/Oštećenje sluha	2	2.0

Table 2. Comparative overview of the dynamics of child's inclusion in treatment
Tabela 2. Usporedni prikaz dinamike uključivanja deteta u tretman

Child's age (years) <i>Uzrast deteta</i>	When parents noticed problems <i>Kada su roditelji posumnjali da postoji problem</i>	Age when the problem was identified <i>Vreme identifikovanja problema</i>	Age when the child was included in treatment <i>Vreme uključivanja deteta u tretman</i>
1	43.2%	25.0%	25.0%
2	20.5%	20.4%	20.4%
3	11.4%	18.2%	11.4%
4	13.6%	25.0%	27.4%
5	9.1%	9.1%	11.3%
6	2.2%	2.3%	4.5%

purposes of this research based on the similar research in other counties. The questionnaire contained 10 questions related to the reasons for the child's treatment/examination, time when the parent noticed the problem, when the first signs of developmental disorders were identified, time when the child was included in treatment, where and how long treatment was provided and who provided it, the number of professionals working with a child, as well as the usefulness of information the parents received from the professionals. The questionnaire was completed by a parent/guardian, who accompanied the child to the institution where the child had undergone treatment or control examination (health centre, school centre). All children had already been diagnosed with developmental disorders. This study was approved by the Ethical Committee of Health Center in Novi Sad and school for children with special needs SOŠO "Milan Petrović" in Novi Sad. The parents were first informed on the purpose of research and having given their written consent to participate in the study they completed the questionnaire. The questionnaire was completed by the mother (91%), the father (8%), or the guardian (1%). All respondents were from the same town, which represents a limitation of this study because the data were obtained only for a reference sample.

Results

The reasons for seeking professional help are numerous and often multiple. By checking one or multiple choice questions, the parents gave reason/reasons why their children were treated at the institution at that time (**Table 1**). As shown in practice, one of the most common reasons for seeking help from professionals was speech delay. The total of the above mentioned problems exceeded 100% since parents could check more than one reason given in the questionnaire for including their child in treatment.

Table 2 gives a comparative overview of the points of time when the parents suspected their child had a problem, when the problem was identified and professionals were involved in the child's treatment. The parents reported that by the first year of life of their child they had recognized or suspected that their child had a problem (in 43%) when

compared to their elder child or other children of their age. The number of children of this age group identified with a problem was halved (25%), but it is positive that there was the same number of children involved in treatment at this age. The largest number of children, over 50%, was treated by professionals from 3 years of age onwards.

Parents sought the doctors' help in the early stages, first of all they addressed the pediatricians, which is understandable because they were oriented towards them and they trusted them. After the child's developmental problem had been identified, the parents reported that they received most information about further services and rehabilitation program for the child by a psychologist. In fact, they very rarely mentioned other professionals, such as a speech language therapist and special educator and rehabilitator (**Table 3**). The parents said that the information given by the professionals had been the most helpful for them to understand their children and their needs and how to include them in everyday activities.

Moreover, we were interested in the number of professionals who were currently treating the child. There were usually one or two professionals (a psychologist and/or psychiatrist), whereas a special educator and rehabilitator and a speech therapist were most commonly included when the team consisted of three or more professionals. Knowing that the program is much more efficient when it is implemented directly between the therapist and the child than indirectly when the parent is playing the role of a therapist, we enquired about the place where the treatment was performed (**Table 4**). The total of the above mentioned settings exceeded 100% since the parents could check more than one place for treatment. The responses obtained indicate that in the greatest number of cases, interventions were delivered by parents who had received instructions on how they could assist their child at home.

Discussion

More and more parents are now "wandering" to get an accurate diagnosis, which is very often difficult to make. Sometimes, some developmental problems may manifest immediately after the child's birth, and one of the first symptoms of developmen-

Table 3. Source of information for possibilities of the child's further treatment
Tabela 3. Izvor informacija o mogućnostima daljeg rada sa detetom

Professionals/ <i>Stručnjaci</i>	N	%
Psychologist/ <i>Psiholog</i>	47	47.0
Pediatrician/ <i>Pedijatar</i>	24	24.0
Speech and language pathologist/ <i>Logoped</i>	15	15.0
Special educator and rehabilitator/ <i>Defektolog</i>	13	13.0
Physiotherapist/ <i>Fizioterapeut</i>	12	12.0
Ophthalmologist/ <i>Oftalmolog</i>	4	4.0
Geneticist/ <i>Genetičar</i>	3	3.0
Psychiatrist/ <i>Psihijatar</i>	3	3.0
Physiatrist/ <i>Fizijatar</i>	2	2.0
Neurologist/ <i>Neurolog</i>	2	2.0
Other parents/ <i>Drugi roditelji</i>	2	2.0

tal disabilities at the earliest age may be evident through disorders and delays in the motor skill development [23, 24]. In this study, these problems were reported in 35% of the children, while the leading problems were related to speech (51%). Problems in speech and language development were often combined with other disabilities, and thus they were most frequently stated by our respondents. Speech impairment often occurred in children born before full term with low birth weight, those with delayed intellectual development and with impaired hearing or motor impairment [25–28]. Blaži [29] reported that problems in speech were the reason why parents had sought professional help in 80% of the children.

Timely identification of problems provides an opportunity for an early initiation of interventions, taking advantage of brain plasticity at an early age to achieve the best possible results. Early start of the intervention is important because an intensive intervention of good quality results in reduced need for special education, and fewer support services are required later in life [30]. The results of early involvement yielded greater benefit for children who had undergone the intervention before the age of two and for longer time [5]. Age is therefore important when problems are suspected, and when professionals advise children and parents about further treatment. Kosiček et al. [1] reported that parents usually noticed a problem within the first three months of their child's life (51%), it was diagnosed in 43% at that age and 32% of children were initially included in rehabilitation therapy. In our study, that percentage was

43% by the end of the first year of life; namely, the problem was identified in 25% of children who exhibited symptoms of developmental delay, and the same number was included in the treatment. While it is evident that the same number of children whose problem was identified received organized treatment, there were another 55% of children whose treatment was delayed since they were not included in organized treatment before the age of three. This leaves a high number of children without adequate intervention from an early age, which reduces the chances of achieving better results. The duration and frequency of intervention are directly related to its effects on the children's cognitive and social emotional development, as well as on their health status [31, 32]. In our study group, the duration and frequency of treatment was far below the time proved to be effective in the Perry preschool program, which included 5 hours a day, five days a week. The parents in our study sample reported that children usually had two hours of treatment per week, which was insufficient to yield any serious results. The reason for this is probably a small number of services available for this type of work. Knowing that the prevalence of children with neurodevelopmental risk factors is about 10%, it is necessary to provide adequate services with the professionals trained for the implementation of early intervention including special education and rehabilitation professionals among them. Furthermore, a possible reason why parents do not seek help and information on the possibilities of (re) habilitation, besides the insuf-

Table 4. Place where treatment was performed in the last 6 months
Tabela 4. Mesto sprovođenja tretmana u poslednjih 6 meseci

Place/ <i>Mesto</i>	N	%
Home (alone with advice)/ <i>Kod kuće (sami uz savete)</i>	41	41.0
Health centre/ <i>U zdravstvenoj ustanovi</i>	24	24.0
Special service/ <i>U specijalizovanoj ustanovi</i>	23	23.0
Private practice/ <i>Privatna ordinacija</i>	21	21.0
Other combinations/ <i>Kombinovano</i>	15	15.0

ficient number of special educators and rehabilitators, is insufficient information about their scope of work. In addition, more information should be given to other health professionals such as medical doctors, nurses, and physiotherapists about the scope of work and competencies of special educators and rehabilitators in order to ensure better team work. It is crucial that they are given educational opportunities to acquire new knowledge, which would help to solve this systemic problem.

Parental involvement in implementing interventions is vital and necessary. The parents in our study sample claimed that they mostly had to carry out this treatment themselves at home, receiving occasional advice from the professionals.

The results from an American research study suggest that interventions performed by parents themselves at home may have weaker effects than those performed in specialized centers [30], because the majority of home visiting programs are mainly focused on parents and less on a child. Studies show that home visiting programs were carried out by poorly trained associates, where families were not sufficiently involved, the programs were not intense and comprehensive, but were focused on a small number of domains, and thus showed little consistent effect on children's achievement. Programs carried out by paraprofessionals are generally ineffective because studies have shown that the professionals are required in order to achieve optimal results [5, 33, 34]. In our study, the results obtained show that treatment provided by early childhood professionals most commonly included one or two professionals, and rarely three or more. Although this number was insufficient and the teams consisted of a psychologist and a psychiatrist only, these programs had potential to provide more effective treatment since the parents did not mention involvement of paraprofessionals. Special educators and rehabilitators are usually involved in treatment when teams consist of three or more professionals. Considering the fact that children's disabilities are most often related to the problems in speech, motor skills and intellectual development, this information is troublesome because of the small number of specialists included in the treatment of children with developmental disabilities. Furthermore, knowing that both a special educator and rehabilitator have been specially trained to treat children with disabilities, it is surprising that their participation in those teams is so low. Since the domain of their work is directed towards the prevention of disabilities and their improvement, or at least maintaining the existing abilities, the absence of their interventions leads to failure to provide the necessary support for children's development. A multidisciplinary approach is required in order to pro-

vide better conditions for functioning of children with disabilities and improve their quality of life [35]. What is particularly worrying is the fact stated by the largest number of parents that the duration of treatment delivered by the professionals was two hours a week per a child. The parents further explained that their children received treatments as often as they were made available by official institutions.

In spite of the place and role of special educator and rehabilitator within the systems of health care, education and social welfare, they are still not available in all the necessary services. Our suggestion would be to follow the example set by developed countries and to establish Centers for childhood early intervention on the local level for children from 0 to 5 or possibly 6 years of age. Furthermore, because early intervention is also focused on the family, it would be most advantageous to form mobile teams, as a part of these Centers, which would visit families and provide interventions in less restrictive and more natural environments for the child and the parents. These teams should consist of professionals such as medical doctors, special educators and rehabilitators, psychologists, social workers, nurses, physiotherapists who would be included in the work with the children and their family when the need arises.

Conclusion

Early identification of developmental delays and neurorisk factors and early introduction of intervention program provide an opportunity to achieve the best possible effects on the child's later development. In optimal conditions, the quality and quantity of program implementation are related to the developmental outcomes for children. Moreover, more flexible programs that integrate various approaches outperform strict and rigid programs. The implementation of such programs should be carried out continuously through the professional teamwork, providing support to parents and children through a system of services. Only well-designed programs conducted by trained professionals can have positive results. It is necessary to develop early intervention services, educate staff and provide conditions that would make it possible to overcome the existing disadvantages in treatment of children from their earliest age. In addition, it is vital to involve special education and rehabilitation professionals to work within teams with children from the earliest age. On the local level in Novi Sad, there are inadequate resources as well as insufficient information about such an important issue as intervention in early developmental period.

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