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Early Intervention with Children Who Have a Hearing Loss: Role of the Professional and Parent Participation

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1. Introduction

Early intervention is defined as "a set of services for children six years of age or younger who are at risk of or who currently have developmental delays or social emotional problems" (Guralnick, 2005, as cited in Mahoney & Wiggers, 2007). The underlying premise for early intervention is that children's developmental or social-emotional problems can be either prevented or remediated through specialized services and activities designed to maximize their developmental learning (Bailey, et. al., 1998; Baguley, et al., 2000; Bluebanning , et. al., 2004). Early intervention is grounded in the conviction that the first five years of life are a span during which there is unique opportunity to prevent or reverse children's developmental problems. The rapid brain growth that occurs at this time of children's lives is believed to be associated with critical periods during which children are uniquely prepared to benefit from developmental stimulation that is matched to their individualized needs and abilities (Mahoney & Wiggers, 2007; Ryugo, Limb & Redd, 2000). In other words there are clearly defined times when the physiological readiness of the organism must coincide with the occurrence of specific externally derived experiences (Ryugo, Limb & Redd, 2000).

Many early intervention programs, particularly programs for children up to age three, provide comprehensive services to families, including social support, service coordination as well as information about child's development (Brown & Arehart, 2000; Brown & Nott, 2005; Mahoney & Wiggers, 2007). Generally it is believed that services that reduce the burdens and stressors families experience can make it easier for parents to focus on the needs and care of their children (Bailey, et. al., 1998; Childress, 2004; Dunst, 2002; Kratochwill, et. al., 2007; Odom & Wolery, 2003). It is also argued that parents must play an active role in their children's development. The argument rests on research results which indicate effectiveness of early intervention services is related to the effect they have on the way parents care for or interact with their children (Bailey, et. al., 1998; Clark, 2007; Kaiser & Hancock, 2003; Mahoney, 2009; Rice & Lenihan, 2005). Therefore it is suggested that professionals who work in early intervention services should collaborate with parents instead of directly shaping children's developmental skills.

Like other areas of special education the necessity for early identification and intervention for language development of children with a hearing loss has long been realized and auditory oral/verbal programs have offered intervention for parents to development of spoken language of their children. However progress in universal newborn hearing screening has altered the age range that professionals used to work with. They have to deal much younger children than the past. The advancement in hearing technology has increased the hearing capacity of these young children. Digital hearing aids and cochlear implants provide richer stimuli than ever. Therefore it seems necessary to reconsider the intervention approaches regarding the age of these children and the new role of the professional.

In this chapter the basic issues on the early management of a hearing loss and the rationale of family based services will be described, the professional's role as a partner with parents in early intervention for babies with a hearing loss will be discussed and the factors which facilitate language development and their use in intervention process will be summarized.

2. Early identification of a hearing loss

Hearing loss which occurs congenitally or early in life prevents language development in its normal discourse since hearing is our primary sense to acquire spoken language. Therefore some steps should be taken to help babies with hearing loss to achieve speech and language skills.

It has been widely acknowledged that children born with a hearing loss can acquire and develop spoken language if they are identified and fitted with appropriate hearing technology early in their lives and receive quality intervention services (Clark, 2007; Cole & Flexer, 2007; DesJardin, et. al., 2006; Estabrooks, 2006). Younger the age of diagnosis and intervention, better the development of spoken language (White, 2006; Yosinago-Itano & Apuzzo, 1998; Yosinago-Itano & Sedey, 2000). For this reason, it is aimed to identify and fit the hearing aids within the first 3 months of life and to start the intervention program no later than 6 months of age.

Technology for automated hearing screening with otoacoustic emissions (OAE) and with auditory brainstem responses (ABR) permits fast, accurate and cost-effective identification of hearing loss in infants within hours after their birth. During the last two decades universal newborn hearing screening (UNHS) were supported as official policy in most developed countries (Department of Public Health, 2009; NDCS; 2004). It is also steadily expanding in developing countries; giving way to early identification and management of any kind of a hearing loss in infants and young children throughout the world.

Early identification and fitting of hearing aids/cochlear implant provide opportunities to stimulate auditory pathways during the critical periods of language acquisition and enables normal development of language. Although it is flawed, sensory stimulation which is provided through the hearing aids or cochlear implants supports the development of the neural network within the auditory system (Ryugo, et.al., 2000). On the other hand, a language enhancing environment should also be created to make maximum use of the sensory stimulation since learning is required for language acquisition (Clark, 2007; Cole & Flexer, 2007; Lieven, 1994; Otto, 2006 ; Sokolov & Snow, 1994).

In course of language development the first two years of life are seen to be critical.

3. Language development in infancy

Language development is one of the most remarkable achievements in childhood. Sometime during their second year most children begin to talk and apparently little time is required in using language to address their needs and carry on social interactions. During the last 50 years language acquisition has been studied with respect to what is learned, when it is learned and what factors or variables seem to explain the process of acquisition. While no single theory provides complete and irrefutable explanation of language acquisition, each theory contributes significant ideas and concepts which over time has clarified the awareness of the ways language is acquired (Bloom, 1993; Otto, 2006; Pine, 1994; Rice, 1996).

Theories which try to explain the language acquisition can be summarized under four broad categories. The nativist and the cognitive developmentalist perspectives emphasize the contributions of "nature" whereas the behaviourist and interactionist perspectives focus more on "nurture".

Nativist perspective emphasizes inborn or innate human capabilities as being responsible for language acquisition. Linguist Noam Chomsky is the major theorist associated with the nativist perspective. He contends that all people inherently have the capacity to acquire language due to cognitive structures that process language differently from other stimuli (Otto, 2006). A major focus of the nativist perspective is on the acquisition of syntactic knowledge. Semantic knowledge is also considered with respect to its relation to syntax (Pool, 2005). Chomsky proposes that universal grammar which is "the system of principles, conditions and rules that are elements or properties of all human languages" (Chomsky, 1975, as cited in Otto, 2006). As evidence of the universality and instinctive nature of language it is argued that no mute civilizations have ever been discovered throughout history. Since language exists in every culture it is concluded that it must arise from human biological instinct rather than from the existence of the culture (Otto, 2006).

Cognitive developmental perspective is based on the work of Jean Piaget (Baldwin, 2005). The emphasis of this perspective is that language is acquired as maturation occurs and cognitive competencies develop. While the nativist perspective emphasizes the inborn language mechanism, the cognitive developmental perspective assumes that cognitive development is a prerequisite and foundation for language learning. This perspective proposes that language is learned using the same learning mechanisms that the child uses for other learning. Thus there is no unique language mechanism. The close relation between the cognitive development and language is based on the belief that, for language to develop, specific cognitive growth must occur first (Baldwin, 2005; Bloom, 1995).

Behaviourist perspective states that learning occurs due to associations established among stimuli, responses and events that occur after the response behaviour. Language is learned as a result of these associations. The child is considered to be a "blank slate" and reinforcement of a child's verbal and nonverbal responses to language directed at him is responsible for language learning. Thus language is "taught" through situations in which children are encouraged to imitate other's speech and to develop associations between verbal stimuli and objects. Reinforcement often takes the form of attention, repetition and approval. This kind of learning is called operant conditioning. The use of the word "operant" acknowledges the child's active role in the learning process. It occurs when environmental consequences occur that are contingent on the specific behaviour. For example when an infant is producing sound and says "ma-ma" the parent may rush to the

infant, show signs of delight and say "Oh, you said ma-ma". This positive response from the parent increases the chances the infant will repeat these sounds. Likewise, speech that elicits no response or ignored is less likely to be repeated (Otto, 2006).

Interactionist approach contends that children acquire language through their attempts to communicate with the world around them. Sociocultural interaction has the primary role and therefore is the main focus of this perspective. Language is acquired by individuals out of a need to function in society and an accompanying need for knowledge of how language functions in that society (Halliday, 1996). The primary role of social interaction in language acquisition is based on the observation that children acquire an awareness of specific communicative functions or intentions (such as indicating, requesting and labelling) before they are able to express themselves linguistically. This can be seen in the joint attention and verbal turn taking that often occurs between prelinguistic infants and their parents or caregivers (Bruner, 1983; 1990). These early understandings of how language functions provide a foundation on which the linguistic competencies are acquired. Environmental supports for language acquisition can be observed in the interaction patterns found in conversations such as listening, responding to what was said, repeating for clarification and asking questions (Cole & Flexer, 2007). Another important aspect of this approach is its focus on the language as *process* of acquisition rather than the language as *product* (Otto, 2006).

Overall the outcomes of research which has different theoretical backgrounds indicates that there is remarkable similarity in the general acquisition sequence for language skills across language and cultures although there is considerable individual variability in language learning strategies and rate of acquisition (Lieven, 1994; Pine, 1994). It is clear that children learn language as a means of talking about what they know so they can accomplish social goals important to them (Halliday, 1996; Thompson, 2005; Vygotsky, 1996) and it is agreed that language emerges from the child's explorations of the world in a rich social setting (Baldwin, 2005; Bloom, 1993; Rice, 1996).

Current thinking behind the language intervention for babies and young children with a hearing loss is more closer to interactionist view suggests that children with a hearing loss have the same innate capacity to develop fluent spoken language as do children with normal hearing provided that they are given the same opportunities (Childress, 2004; Clark, 2007; Cole & Flexer, 2007;). Clark (2007) states that "same opportunity"is sometimes difficult to create. Because knowledge of the presence of a hearing loss in a child often puts pressure on the significant adults in the child's environment. The pressure that parents experience usually lead them to alter their natural interaction with their baby. The purpose of early intervention was therefore defined as to support and assist families in providing language learning opportunities for their infant within the activities, routines and events of everyday life in an interactional natural way rather than "teaching language". The professionals who work in early intervention should be guiding and coaching parents to establish an appropriate quality interaction with their babies (Bailey et. al., 1991; Baguley & Bamford, 2000; Clark, 2007; DesJardin, et.al, 2006; Mahoney & Perales, 2003; Mahoney 2009; White, 2006).

4. Parent-child interaction in language development and early intervention

Studies concentrated on parent-child interaction in language development indicate that there are some speech adjustments which adults make when they interact with young language learners. The speech addressed to children consists of short, well-formed

utterances and simple sentences. It is characteristically higher in pitch, more exaggerated in intonation and slower in tempo than speech among adults. It is highly redundant with lots of repetitions and closely tied to the immediate context (Bornstein & Tamis-LeMonda, 1997; Bornstein, et.al., 1999; Pine, 1994). This kind of speech is called "motherese" or child directed speech by several reserchers (Cole &Flexer, 2007, Eastabrooks, 2006; Otto, 2006; Pine, 1994).

To answer the reasons for using speech adjustments several explanations were suggested and a general consensus is reached arguing that speech adjustment to young children are motivated by a desire to communicate rather than to teach the language (Bruner, 1990; Cole & Flexer, 2007; Lieven, 1994; Pine, 1994; Sokolov & Snow, 1994). It is suggested that these adjustments have two main functions: the facilitation of understanding and sustaining of attention (Cole & Flexer, 2007; Pine, 1994). It has a conversational nature but at the same time it helps to direct and control child's behaviour (Bornstein & Tamis-LeMonda, 1997; Bornstein, et.al., 1999). The speech adjustment can be properly understood by putting it back to the context in which it occurs but the context is itself multifaceted and extends far beyond the dyad itself, not only to the family in which child is growing up, but also to the culture or subculture of which it forms a part (Lieven, 1994).

Young children's social and communicative skills were also found to be more precocious than their language skills during their interactions with adults and argued that it could serve as a facilitative source for language development (Bruner, 1983; 1990). Children were seen as active learners in interaction process rather than passive learners. The term "cognitive apprenticeship" is used to explain the child's learning and problem solving from "*actively* observing and participating in culturally defined problems with more skilled members in their society" (Sokolov & Snow, 1994, p. 44). Based on these observations, the connection between prelinguistic communicative intents in children and adults were studied widely in early language development and it was suggested that what children acquire and encounter is "language in use" during the language development process (Halliday, 1996). Language is a resource for making meaning and meaning is reflexive of the context. It is social, semantic and holistic (Thompson, 2005). Therefore communication and context of conversational interaction is central in the acquisition of language and the data from controlled experiments must be completed by observational studies of children in their natural environments as well (Halliday, 1996). Bruner (1983) supported this view and argued that the study of communicative precursors to formal language was important and quite independent of the nature-nurture controversy suggesting to concentrate more on intention between the adult and the child.

These summarized concepts are also relevant to intervention practices for children with a hearing loss (Brown & Nott, 2005; Clark, 2007; Estabrooks, 2006; Sokolov & Snow, 1994) especially for the ones before 3 years of age. Basic assumption is that if adequate auditory and linguistic experience is provided to most children who have hearing loss from an early age; cognitive and linguistic functioning can be expected to follow the normal course of development (Clark, 2007; Geers, 2004, as cited in Cole and Flexer, 2007; Houston, et.al., 2003; Moller, 2000; Rice & Lenihan, 2005; Spencer, 2004; Wallace, et.al., 2000; Warren, 2000).

The most reasonable course to follow in carrying out intervention is, establishing a normal language learning environment (Brown & Nott, 2005; Clark, 2007; Cole & Flexer, 2007; Hogan. et.al., 2008). The sequence of language learning is expected to include normal processes such as the intertwining of linguistic and cognitive activity. Parents are the social

agents that best understand child's intentions and thus can best provide the scaffolding that they needed during the early development (Brown & Nott, 2005; Bloom, 1993; Bruner,1983; Wilson, 1998; Mahoney & Wiggers, 2007; Mahoney, 2009).

5. Effects of a hearing loss in interaction

Studies in the past conducted with children older than 18 months of age showed that parents of children who have hearing loss undergo controlling, discouraging and negative interactions with their children which provide a less facilitative environment for language acquisition and for social and cognitive development (Schlesinger & Meadow, 1972). Some studies argued that linguistic competence of the child would determine the parent's interaction with the child. If the child's language level is behind their chronological age parental control, simplicity and directivenes in language are increased and becomes different than the language used while addressing normal hearing children at the same age. (Gregory, et. al., 1979). Even in the earliest stages, differences in interactive behaviour were reported. Meadow, et. al. (1981) indicated that deaf infants of three, five and eight months had more physical contact with their mothers than hearing infants, suggesting that mothers of deaf children exploit the tactile kinaesthetic channel for gaining and holding attention rather than well known child directed speech features such as shorter utterances. Hughes and Huntington (1986) reported distorted speech and phonologic/prosodic characteristics in some mothers' of deaf children. They were easily recognized by listening to audiotaped voices during their interaction with the child. It is argued that distorted speech and altered intonation make the speech even more difficult to understand since they effect the second formant information. These kind of interactive differences possibly had negative effects on language development of children with hearing loss in later ages.

Early identification, amplification and intervention provide a chance to prevent deviances from normal interaction by providing auditory information to the child and supporting parents in their interactive skills immediately. Indeed it becomes possible to follow normal developmental patterns in language development without considerable delay and in most cases with no delay at all (Brown & Arehart, 2000; DesJardin, et.al., 2006; Moller, 2000; Hoberg-Arehart & Yoshinago-Itano, 1999; Houston, et.al., 2003; Robinshaw, 1995; Spencer, 2004; Wallace, et.al., 2000; White, 2006, Yoshinago-Itano & Apuzzo, 1998). Starting with the diagnosis of the hearing loss, parents should be encouraged to follow normal interaction patterns during their daily life.

Daily activities such as feeding, cleaning, dressing and simple play routines provide excellent opportunities of language learning for babies younger than one year old. The repetitive nature of the daily routines consolidates the experience and the language that accompanies them. By talking about the things they do during these activities parents are most likely to provide meaningful language input to the child. Following the baby's gaze and responding to his/her vocalizations help parents to regulate turn taking and to understand his/her intentions. (Brown & Nott, 2005; Clark, 2007).

The professional should guide and coach the parents in such a way that they come to realize that listening and speaking are a way of life for development of language in babies with a hearing loss. The parents' awareness should be heightened on how much they are already doing naturally and to encourage them to do more of it. The idea is not to intrude into the child's self-absorbed exploratory play in order to engage him/her in talk every waking

minute, but to select or create opportunities for verbal interaction (Cole & Flexer, 2007). Auditory stimulation is the base of these kind of intervention and if language acquisition through audition is attempted, correct use of hearing aids or cochlear implants throughout the day has the utmost importance.

6. Management and practical aspects in intervention

6.1 Amplification and listening environment

Hearing aids and cochlear implants properly adjusted are the core of auditory oral or verbal intervention programmes. It is possible to fit and adjust internal settings of the hearing aids or cochlear implants with objective techniques in today's technology. Digital hearing aids are so flexible that they can be easily set for very young ones and it is possible to programme cochlear implants using NRT (Hughes, et.al., 2000), eSRT (Kosaner, et. al., 2009) and cortical responses (Sharma, et. al., 2005) even for babies younger than one year old. Combined with careful behavioural observations at home and clinics it does not take long to achieve optimum adjustment of the hearing aids or cochlear implants. However, the main issue is the effective use of hearing devices after fitting (Brown & Nott, 2005; Clark, 2007; Cole & Flexer, 2007).

Particular attention should be paid to train parents in effective use of hearing aids/cochlear implants during all waking hours of the baby. The parents must accept their responsibility in constant and efficient use of hearing aids or cochlear implants since babies spend all of their time with the family. When parents purchase the hearing aids it is the professional's role to help and supervise parents until they feel comfortable enough to check and fit the devices onto the baby properly (Clark, 2007). Guiding parents in hearing aid use and solving the problems related to hearing aids improves parents confidence in dealing with the devices and motivates them in efficient use. They should be advised about the frequently checking the external controls of the devices and batteries during the day because babies and young children are not capable of signalling the problems of the incoming sound. Adults must detect and solve the problems in the hearing aids/cochlear implants to provide constant flow of the auditory information. It is possible to lock external control settings of the digital hearing aids/cochlear implants during programming of the device which provides confidence about the exact settings in daily use. Batteries should be checked if they keep supplying the power during the day.

Feedback is the major problem while using hearing aids with the very young ones since the pinna is too small and soft to support the weight of the hearing aid and the neck support at this age is weak. It is possible to prevent feedback problem by using soft ear moulds and specially designed long spiral shaped tubing which allows attaching the hearing aids over shoulders until the baby start to hold his/her neck securely and sit up with no support.

Parents also need to know that hearing aids/cochlear implants does not restore the hearing to the normal. It is necessary to inform parents on deteriorative effect of the background noise over speech sounds and the negative effect of the microphone distance on speech perception. It is easier to accomplish optimum microphone distance with babies during their first year in life since we talk to them literally in an “ear shot” while holding them in arms or in their cribs. It is also advised to use a FM system in noisy conditions.

Parents should also be warned to be sensitive about voice clashes. It occurs while more than one person is talking at the same time during their interaction with the baby. As an

inexperienced listener it is very difficult for a young child to know whom to attend to and it would deteriorate the intelligibility of the speech signals via hearing aids.

It helps in constant and efficient use of the hearing aids if parents are convinced that their baby can hear with the amplification (Clark, 2007; Cole & Flexer, 2007, Estabrooks, 2006). Often, early indications or clues of the child progressing are the most effective and immediate encouragement for the parents. This can be achieved by demonstrating the child's responses to the sound during the intervention and leading parents to observe their child's responses to the sound at home. The professional can guide the parents about early indicators of the child's hearing. These indicators include alertness to sound, turning to sound, quieting to sound, increased vocalizing, decreased vocalizing while listening and/or increased variety in vocalized sounds. The questions about child's responses to the sound help parents to observe more closely their child. Seeing the responses to the sound motivates parents in efficient use of hearing aids, they become sensitive for monitoring progress in the child.

6.2 Intervention sessions

Frequency, duration and place of an intervention session varies depending on the state policies in a given country and theoretical base and facilities of the intervention centres. Intervention could be home-based or centre-based, it could be once or twice in a week or a month (Department of Public Health, 2009; NDCS, 2004; Hogan, 2008).

Home based intervention has the advantage of knowing families' real life and planning the intervention accordingly. It is also possible to create close to natural environments at centre based programs. Duration of a session is usually reported 45 minutes to 1.5 hours (Brown & Nott, 2005; Clark, 2007, Estabrooks, 2006; Hogan, 2008).

In each session observing parents while interacting with the child is suggested (Brown & Nott, 2005; Clark, 2007; Estabrooks, 2007). Observing parents in interacting with the child serves several purposes. Firstly, the professional can evaluate the parents' strengths and weaknesses during their interaction with the child and guide the parents accordingly. Second, they have an opportunity to practice the new skills they acquired. Third it provides a chance to observe and monitor the progress in the child. It must be remembered that the main aim is to lead the parents toward confidence, competence and independence in handling their child with hearing loss (Bailey, 1998; Childress, 2004; DesJardin, et.al., Estabrooks, 2007; Kaiser & Hancock, 2005). Therefore all the positive aspects of the interaction should be mentioned and explained to the parents. The parents become more receptive to the suggestions given by the professional when they realize their strengths. In every session only one feature of what has been observed should be discussed for improvement (Clark, 2007).

The educational materials used in the sessions should be familiar and available at home. Using materials which are developmentally not appropriate to the child or are not available at home might be discouraging for the parents (Childress, 2004; Dunst, 2002; Mahoney, 2009; Odom& Wolery, 2003). Parents also may bring the toys, books or other materials to the session. For the babies younger than 6 months of age simple turn taking games, hiding and finding toys, popping up games and daily care routines of the infant can be used to interact in a language enabling way. When they grow a little older, simple household routines like sorting clothes to be washed, making fruit juice and tidying up can be performed. Parents

must understand to recognize opportunities to facilitate language learning during the daily activities through following child's interest and being sensitive to communicative intentions of the child. Once parents understand to use language facilitating strategies in daily routines, they become active partners in creating these opportunities (Brown & Nott, 2005; Clark, 2007; Kaiser & Hester, 1995; Kaiser & Hancock, 2003; Wilson, 1998).

Some time during the session must be spent in discussing the things parents have done with the child since the last time they have been to the session. Also parents must be asked if they want to discuss any thing related to the child's development or progress. The parents should feel free to share their concerns or questions with the professional as well as positive signs of the progress. The professional should be able to refer parents to related professionals if their concerns are beyond the scope of the intervention process such as suspicion of a second handicap, neurological problems or necessity of psychiatric evaluation (Estabrooks, 2007; Clark, 2007; Lutherman, 2004).

Each session should include a musical activity or a listening game to improve listening skills of the child. Parents often need help to create suitable activities during the first few sessions. Therefore it is advised to dedicate time for age appropriate and enjoyable listening activities in each session. Parents must understand that these activities improve listening skills and are also enjoyable. Singing lullabies, rhymes and simple repetitive songs are highly recommended to widen the child's listening experience and to develop a sense of rhythm (Clark, 2007; Cole & Flexer, 2007; Estabrooks, 2007). Naturally occurring sounds at home such as door bell, telephone ring, and sounds from outside can also be used to develop listening skills. Parents are advised to listen to the sounds at home themselves first, then draw the attention of the child to the sound and to show them the source.

At the end of the session it is better to discuss language enabling activities and areas of language that might be focused at home. Caution should be taken that parents provide a language enhancing environment to the child. It must be remembered that language is a complex, specialized skill that develops in a child spontaneously and it is not something that parents teach their children (Pinker, 1994, as cited in Clark, 2007).

Sometimes it is better for the parents to see the professional interacting and talking with their child in a natural way. Professional's attitude towards the child encourages parent to expect age appropriate development. It is highly motivating especially after the diagnosis for some parents to see someone treating their child in a normal way who is not solely focusing on the hearing loss.

7. Role of the professional

Advice given in the early years to the parents of children who have a hearing loss has long lasting effects on the children's development and future lives. The professionals who first come into contact with families seeking advice on how best to manage a young child who has a hearing loss bear tremendous responsibility for their futures (Clark, 2007). Their role is complex and challenging. It is different from other professional roles such as teachers or case managers, although it may include some aspects of these roles (Bailey, et.al., 1991; Hoberg-Arehart & Yoshinago-Itano, 1999; Kaiser & Hancock, 2003). Professionals who work with young children with disabilities must know how to partner with families, including working together to address child and family needs. Studies on parent participation indicate

that intervention efforts are enhanced when families participate in early childhood programs (Bailey et al., 1998; Baguley, 2000; Bluebanning, 2004; Mahoney & Wiggers, 2007; Mahoney, 2009; White, 2006; Wilson, 1998).

If a family centred and participation-based philosophy is adopted, roles of parents and professionals become different from traditional practice on the basis of four primary features: (a) activity leader, (b) use of natural materials, (c) role of the parent, and (d) role of the provider. (Brown & Nott, 2005; Campbell & Sawyer, 2009; Dunst, 2002) In traditional practice, the professional is generally the activity leader, materials that are not likely to be natural to the home setting are used in intervention, the parent most frequently plays a passive role such as an observer, and the professional is the primary person interacting with the child. This type of intervention approach has been identified by a number of labels including one-on-one intervention or direct intervention (Dunst, 2002). In a participation-based approach, the focus is on promoting a child's participation within typical family activities and routines. The activity leader is the parent or child, materials natural to the activity or routine are used, the parent actively interacts with the child, and the professional plays a role of facilitator (Campbell & Sawyer, 2009; Childress, 2004; Dunst, 2002; Macy, et. al., 2009; Mahoney, 2009;) suggesting appropriate techniques and strategies to facilitate language development and sometimes interacting with the child to model the parents at certain techniques (Clark, 2007; Estabrooks, 2006).

In order to work effectively in the field, the professional must be fluent in specific intervention they will teach parents (Kaiser & Hancock, 2003). Fluency requires mastery of specific intervention procedures, understanding of the conceptual basis of the intervention and its main assumptions. The conceptual knowledge is required in order to explain the rational behind the each aspect of the procedure to parents, to place the intervention in the framework of the child's developmental characteristics, to relate the parents' behavior to the goals of the intervention and the family's goals for the child and themselves and to answer parents' questions (Brown & Nott, 2005; Estabrooks, 2006; Hogan, 2008).That is consistent with the findings indicating technical knowledge and skills of the service providers, parent education and diagnostic evaluations/ assessment of the child as the most beneficial aspects of early intervention experiences among the other properties as well (Foran & Sweeney, 2010).

The ability to present the intervention in a way that is understood by the parents is another aspect which is crucially important (Kaiser & Hancock, 2003). The professional must be able to instruct parents on interacting in a language enabling way with their child and to troubleshoot with parents in their use of it in order to provide specific feedback, guidance and coaching toward effective implementation (Brown & Nott, 2005; Estabrooks, 2006; Kaiser & Hester, 1995; Kaiser & Hancock, 2003). This can be achieved by observing parents while they are interacting with their baby during play or daily activities. Depending on these observations, the needs of a specific parent child relationship at a specific language learning stage can be decided (Brown & Nott, 2005; Clark, 2007; Estabrooks, 2006). From the start parents must understand that the professional's task is to observe and to offer advice on the type of interaction that the professional sees them enjoy with the child. Initially some parents are resistant to this approach because they want to the child to receive therapy from the professional (Clark, 2007).

Observing parent child-interaction either in daily activities or at play the professional gathers information on contingent responsiveness between the parent and the child, amount

of joint attention, and how it is created and maintained by both parties, parent's awareness on language facilitative opportunities. These are all critical for planning the intervention sessions. Parents are a valuable source of information about their child and their observations and judgements should be included while planning the intervention (Campbell & Sawyer, 2009; Eriks-Brophy, et.al., 2006; Knopf & Swick, 2008).

It is seen as a professional's responsibility to encourage parents to involve actively in the intervention sessions in a way that is most suitable for the family. The professionals must realize uniqueness of each family to achieve this. It must also be kept in mind that relationships and interaction patterns within a family system are more complex than formerly believed. Family members assume familial roles and functions with proximal and distal features (Campbell & Sawyer 2009). Therefore, the needs, priorities, resources, desires, and wisdom of a child's family should be taken into account. The presence of hearing loss in the child does not mean that the family has to alter what would have been its natural child rearing practice to fit the professional's concept of child rearing. The only time professional alters the way a child is managed is when there is behaviour that is inhibiting the development of listening and of spoken language (Clark, 2007).

In recent years interpersonal relationship between parents and the professionals has gained considerable attention as another important aspect of successful intervention process. Research on the subject indicates its role in the development of family centred practices aiming to empower parents in special education (Knight & Woodsworth, 1999; Kratchowill, et. al., 2007; Lutherman, 2004; Macy, et. al., 2009).

Park and Turnbull (2003) created a framework distinguishing interpersonal and structural components of effective partnership. They identified from the literature a series of interpersonal relationship attitudes, skills and beliefs that appear to contribute to effective partnership among families, professionals and agencies. Collaborative partnership characterized by factors such as trust, respect, communication, shared vision and cultural sensitivity were identified as critical for effective partnership. However these are subjective terms and their meaning can be different from one person to another.

Bluebanning et al. (2004) emphasized the need for the operational definition of these terms. They argued that the clear operational definition of these terms may help professionals to develop a better understanding of the family perspectives leading to establish good quality early intervention services. Their study focused on parents' and professionals' descriptions of the terminology which are widely used in family centered, collaborative intervention programs. They described six collaborative themes and their behavioural indicators is stressed by parents and professionals. Themes are defined as communication, commitment, equality, skills, trust and respect. Parents and professionals described behaviours related to each of these themes in substantial good agreement except commitment and equality. Parents talked of wanting professionals to "go the extra mile" and to be like one in the family in their involvement with them. Professionals expressed the same sentiments but they also expressed reservations about taking these concepts too far. These reservations centred on the perceived need to "empower" families to take charge of advocating for their child and themselves, and the concern that doing "too much" might foster co-dependency and actually harm the family. The questions of when being "like family" gets in the way of doing one's job and when "empowering" becomes disenfranchising are issues referring to the boundaries between families and professionals. It is argued that the subject needs further research for effective

guidelines on creating appropriate boundaries between families and professionals that preserve warm and committed relationships without disempowering families.

8. Conclusion

The children who are born with a hearing loss or acquired it early in life have never before had such a potential to hear, listen and talk. Advances in technology such as digital hearing aids and cochlear implants make language development through audition possible. This particular group of children can hear the sounds around them with greater ease than in the past. By early detection of the hearing loss and early intervention, these children have a chance to develop spoken language comparable to those of their hearing counterparts since they catch up the critical periods for language learning.

Intervention programmes aim to establish normal interaction patterns which facilitate language development in infants and children with a hearing loss. These programs assume that children with a hearing loss have the same innate capacity with normal hearing children for language acquisition. By providing the same opportunities they can develop spoken language which is comparable to normal development.

Parents are seen as partners in this approach and have the responsibility to ensure use of hearing aids/cochlear implants within all waking hours of the child. Professionals work with parents to elaborate their communicative strategies with the young child in their daily lives. They were encouraged to independently handle their child with a hearing loss.

Professionals who work in the field are expected to give information that is timely, accurate and at the appropriate level of the individual parent. They need to possess active listening skills to define and address identified problems or needs. They should be foster confidence, competence and independence in parents. They must have strength in providing strategic guidance to parents by adopting the role of a mentor or coach.

9. References

Bailey, B. D. Jr., Palsha, S. A. & Simeonsson, R. J. (1991). Professional Skills, Concerns and Perceived Importance of Work With Families in Early Intervention. *Exceptional Children,* Vol. 58, Available from http://www. questia.trustedonlineresearch/

Bailey, B. D. Jr., McWilliam, R.A., Darkes, L. A., Hebbeler, K., Simeonsson, R. J., piker, D., & Wagner, M. (1998). Family Outcomes in Early Intervention: A F ramework for Programme Evaluation and Efficacy Research. *Exceptional Children,* Vol. 64, Available from http://www. questia.trustedonlineresearch/

Baguley, D.; Davis, A. & Bamford, J. (2000) The Principles of Family-Friendly Hearing Services for Children. *British Society of Audiology News,* Vol. 29, pp. 35-39, Available from http://www.deafnessatbirth.org.uk/content2/support/services

Baldwin, J.A. (2005). Jean Piaget. In: *Key Thinkers in Linguistics and The Philosophy of Language*, 205-207, S. Chapman & C. Routledge (Eds.), Oxford University Press, ISBN 0-19-518768-8, Oxford, New York

Bloom, L. (1993). *The Transition from Infancy to Language*, Cambridge University Press, ISBN0-521-48379-4, Cambridge, Melbourne

Bluebanning, M., Summers, J. A., Frankland, H. C. Nelson, L. L. & Beegle, G. (2004) Dimensions of Family and Professional Partnerships: Constructive Guidelines for Collaboration. *Exceptional Children,* Vol. 70, No. 2, pp. 167-184

Brown, A. S. & Arehart, K. H. (2000) Universal Newborn Hearing Screening: Impact on Early Intervention Services. *The Volta Review,* Vol. 100, No. 5, pp. 85-117

Brown, P.M. & Nott, P. (2005). Family-Centred Practice in Early Intervention for Oral Language Development: Philosophy, Methods and Results. In: *Spoken Language Development of Deaf or Hard of Hearing Children*, 136-165, P. E. Spencer (Ed), Available from http://site.ebrary.com/lib/anadolu/Doc?id=10091866

Bornstein, M.H. & Tamis-LeMonda, C.S.(1997) Maternal responsiveness and infant mental abilities: specific predictive relations. Infant Behaviour and Development, 20 (3), 283-296.

Bornstein, M.H., Tamis-LeMonda, C.S. & Haynes, O.M. (1999) First words in the second year: continuity, stability and models of concurrent and predictive correspondance in vocabulary and verbal responsiveness across age and context. Infant Behaviour and Development, 22(1), 65-85.

Bruner, J. (1983) *Child's Talk: Learning to Use Language*. W. W. Norton, ISBN 0-393-95345-9, New York

Bruner, J. (1990). *Acts of Meaning*. Harvard University Press, ISBN 0674-00361-6, Cambridge

Campbell, P. H. & Sawyer, L. B. (2009). Changing Early Intervention Providers' Home Visiting Skills Through Participation in Professional Development. *Topics in Early Childhood Special Education,* Vol.28, No. 4, pp. 219-234, Available at: http://online.sagepub.com

Clark, M (2007). *A Practical Guide to Quality Interaction With Children Who Have a Hearing Loss,* Plural Publishing, ISBN 1-597556-112-6, San Diego, Oxford, Brisbane

Childress, D.C. (2004). Special Instructions in Natural Environments: Best Practices in Early Intervention. *Infants and Young Children,* Vol. 17, No. 2, pp. 162-170

Cole, E.B. & Flexer, C. (2007). *Children With Hearing Loss: Developing Listening and Talking Bith to Six,* ISBN 978-1-59756-158-7, Plural Publishing, San Diego, Oxford, Brisbane.

Department of Public Health Interagency Coordinating Council (2009). Partnering for the Success of Children With Hearing Loss Task Force Report. Available from www.mass.gov/dph/earlyintervention

DesJardin, J. L., Eisenberg, L. S., & Hodapp, R. M. (2006) Sound beginnings: Supporting Families of Young Deaf Children With Cochlear Implants. *Infants & Young Children,* Vol. 19, No. 3, pp. 179-189

Dunst, C. J. (2002). Family Centred Practices: Birth Through High School. *The Journal of Special Education,* Vol. 36, No. 3., pp. 139-147

Eriks-Brophy, A., Durieux-Smith, A., Olds, J., Fitzpatrick, E., Duquette, C., & Whittingham, J. A. (2006) Facilitators and Barriers to the Inclusion of Orally Educated Children and Youth with Hearing Loss in Schools: Promoting Partnerships to Support Inclusion. *The Volta Review,* Vol. 106, No. 1, pp. 53-88

Estabrooks, W. (2006). *Auditory Verbal: Therapy and Practice.* AG Bell, ISBN 978-0-88200-223-1, Washington, DC

Foran, S., & Sweeney, J. (2010) Accessing Specialist Early Intervention Services for Pre-School Children: A Lack of Co-ordination in the Delivery of Early Intervention to Children with an Intellectual Disability in Ireland Led to Examine the Lived Experiences of Families Accessing Services. *Learning Disability Practice,* Vol.13 No.2

Gregory, S., Mogford, K., & Bishop, J. (1979). Mothers' Speech to Young Hearing Impaired Children. *Journal of the British Association of the Teachers of the Deaf,* Vol. 3, pp. 42-5

Halliday, M. A. K. (1996). Relevant Models of Language. In: *Language Development: A Reader for Teachers,* 36-41, B.M. Power & R.S. Hubbard (Eds.), Pearson-Merril Prentice Hall, ISBN 0-13-191032-9 New Jersey, Ohio. (Original Source: Relevant Models of Language, 1969, *Educational Rewiev*, Vol. 22, pp. 26-37)

Hoberg-Arehart, K., & Yoshinago-Itano, C. (1999). The Role of Educators of the Deaf in The Early Identification of Hearing Loss. *American Annals of the Deaf,* Vol. 144, no. 1, pp. 19-23

Hogan, S., Stokes,J., White, C., Tyszkiewicz, E., & Woolgar, A. (2008). An Evaluation of Auditory Verbal Therapy Using the Rate of Early Language Development as an Outcome Measure. *Deafness Educ. Int.* Vol. 10, pp. 143–167

Houston, D. M., Ying, E.A., Pisoni, D. B. & Kirk, I.K. (2003) Development of Pre-Word Learning Skills in Infants with Cochlear Implants. *The Volta Review,* Vol. 103, No. 4, pp. 303-326

Hughes, M. L., Brown, C., Abbas, P., et.al. (2000) Comparison of EAP Threshold Measures with MAP Levels in the Nucleus 24 Cochlear Implants: Data from Children. *Ear & Hearing,* Vol. 21, No: 2, pp. 164-174

Hughes, M. E., & Huntington, J. N. (1983). Subjective Listener Judgements of Mothers' Speech to Normally Hearing and Hearing Impaired Children. *Journal of the British Association of the Teachers of the Deaf,* Vol. 7, pp. 18-23

Kaiser, A.P. & Hester, P.P. (1995). Preparing Parent Trainers: An Experimental Analysis of Effects on Trainers, Parents and Children. *Topics in Early Childhood Special Education,* Vol. 15, No. 4, ISSN 0271-1214

Kaiser, A. P., & Hancock, T. B. (2003). Teaching Parents New Skills to Support Their Young Children's Development. *Infants & Young Children,* Vol. 16, No. 1, pp. 9-21

Knight, D. & Wadsworth, D. (1999) Is the Development of Family/School Partnership Promoted in the Nation's Special Education Teacher Preparation Programmes? *Contemporary Education*, Vol. 70, No. 3, pp. 22-29

Knopf, H. E., & Swick K. J. (2008). Using Our Understanding of Families to Strengthen Family Involvement. *Early Childhood Educ J,* Vol. 35, pp. 419–427, ISSN 10643-007-0198

Koşaner, J., Anderson, I., Turan, Z., Diebl, M. (2009). The Use of eSRT in Fitting Children With Cochlear Implants. *Journal of International Advanced Otology*, Vol.5, No. 1, pp. 70-79

Kratochwill, T. R., Volpianski, P., Clements, M. & Ball, C. (2007). Professional Development in Implementing and Sustaining Multitier Prevention Models: Implications for Response to Intervention. *School Psychology Review*, Vol.36, No.4, pp. 618-631, ISSN 0279-6015

Lieven, E.V.M. (1994). Crosslinguistic and Crosscultural Aspects of Language Addressed to Children. In: *Input and Interaction in Language Acquisition*, 56-73, C. Gallaway & B.J. Richards (Eds.), Cambridge University Press, ISBN 0-521-43725-3, Cambridge, Melbourne

Luterman, D. (2004) Counselling Families of Children with Hearing Loss and Special Needs. *Volta review,* Vol. 104, No. 4 (monograph), pp.215-220

Macy, M., Squires, J.K., & Barton, E. E. (2009) Providing Optimal Opportunities Structuring Practicum Experiences in Early Intervention and Early Childhood Special Education Preservice Programs. *Topics in Early Childhood Special Education,* Vol. 28, No. 4, pp. 209-218, Available at http://tecse.sagepub.com

Mahoney, G. & Perales, F. (2003). Using Relationship-Focused Intervention to Enhance The Social-Emotional Functioning of Young Children with Autism Spectrum Disorders. *TECSE,* Vol. 23, No. 2, pp. 77-89

Mahoney, G. & Wiggers, B. (2007). The Role of Parents in Early Intervention: Implication for Social Work. *Children and Schools,* Vol. 29 , No. 1, pp. 7-15

Mahoney, G. (2009) Relationship Focused Intervention (RFI): Enhancing the Role of Parents in Children's Developmental Intervention. *International Journal of Early Childhood Special Education (INT-JECSE)*, Vol. 1, No. 1, pp. 79-94

Meadow, K. P., Greenberg, M. T., Erting, C., & Charmichael, H. (1981). Interactions of Deaf Mothers and Deaf Preschool Children: Comparisons with 3 Other Groups of Deaf and Hearing Dyads. *American Annals of the Deaf,*Vol. 126, pp. 454-68

Moller, M.P. (2000) Early Intervention and Language Development in Children Who are Deaf or Hard of Hearing. *Paediatrics,* Vol. 106, No. 3, e43 (electronic version).

NDCS, (2004) Communicating With Your Deaf Child. In: *Communicating With Your Deaf Child, NDCS,*19.03.2007, Available from http: // www. ndcs. org.uk /family _ support/ communication

Odom, S.L., & Wolery, M. (2003). A Unified Theory of Practice in Early Intervention/Early Childhood Special Education: Evidence Based Practices. *The Journal of Special Education,* Vol. 37, No. 3, pp. 161-173

Otto, B. (2006). *Language Development in Early Childhood*, Pearson-Merril Prentice Hall, ISBN 0-13-118771-6, New Jersey, Ohio

Pine, J.M. (1994). The Language of Primary Caregivers, In: *Input and Interaction in Language Acquisition,* 15-37, C. Gallaway & B.J. Richards (Eds.), Cambridge University Press, ISBN 0-521-43725-3, Cambridge, Melbourne

Pool, G. (2005). Noam Chomsky, In: *Key Thinkers in Linguistics and The Philosophy of Language,* 53-60, S. Chapman & C. Routledge (Eds.), Oxford University Press, ISBN 0-19-518768-8, Oxford, New York

Rice, M. (1996). Children's Language Acquisition. In: *Language Development: A Reader for Teachers,* 3-12, B.M. Power & R.S. Hubbard (Eds.), Pearson-Merril Prentice Hall, ISBN 0-13-191032-9, New Jersey, Ohio

Rice, G.B. & Lenihan, S. (2005) Early Intervention in Auditory/Oral Deaf Education: Parent and Professional Perspectives. *The Volta Review*, Vol. 105, No. 1, pp. 73-96.

Robinshaw, H.M. (1995) Early intervention for hearing impairment: differences in timing of communicative and linguistic development. British Journal of Audiology. 29, 315-334.

Ryugo, D. K., Limb, C.J. & Redd, E.E. (2000). Brain Plasticity: The Impact of the Environment on the Brain as It Relates to Hearing and Deafness. In: *Cochlear Implants: Principles and Practices,* pp. 33-57, J.K. Niparko (Ed.), Lippincott Williams & Wilkins, ISBN 0-7817-17-82-5, Philadelphia

Schlesinger, H. S., & Meadow, K. P. (1972). *Sound and Sign: Childhood Deafness and Mental Health.* UCLA Press, Berkeley (ISBN not available)

Sharma, A., Martin, K., Roland, P., Bauer, P., et. al., (2005). P1 Latency as a Biomarker for Central Auditory Development in Children with Hearing Impairment. *Journal of the American Academy of Audiology,* Vol. 16., pp. 564-573

Snow, C. E. (1972). Mothers' Speech to Children Learning Language. *Child Development*, Vol. 43, pp. 549-65.

Sokolov, J.F. & Snow, C. E. (1994). The Changing Role of Negative Evidence in Theories of Language Development, In: *Input and Interaction in Language Acquisition*, 38-55, C.

Gallaway & B.J. Richards (Eds), Cambridge University Press, ISBN 0-521-43725-3, Cambridge, Melbourne

Spencer, P.E. (2004). Individual Differences in Language Performance after Cochlear Implantation at One to Three Years of Age: Child, Family and Linguistic Factors, *Journal of Deaf Studies and Deaf Education,* Vol.9, No. 4, pp. 398-411

Thompson, G. (2005). Halliday, M.A.K . In: *Key Thinkers in Linguistics and The Philosophy of Language,* 116-122, S. Chapman & C. Routledge (Eds.), Oxford University Press, ISBN 0-19-518768-8, Oxford, New York

Tucker, I., Hughes, M. E., & Glover, M. (1983). Verbal Interaction with Preschool Hearing Impaired Children: A comparison of Maternal and Paternal Inputs. *Journal of the British Association of Teachers of the Deaf,* Vol. 7, pp. 90-8

Wallace, V., Menn, L. M. M. & Yoshinago-Itano, C. (2000). Is Babble the Gateway to Speech for All Children? A Longitudinal Study of Children Who Are Deaf or Hard of Hearing. *The Volta Review,* Vol. 100, No. 5, pp. 121-148

Warren, S. F. (2000) The future of early communication and language intervention. Topics in Early Childhood Special Education, Vol. 20, No.1,

White, K. R. (2006) Early Intervention for Children with Permanent Hearing Loss: Finishing the EHDI Revolution. *The Volta Review*, Vol. 106, No. 3, pp. 237-258, ISSN 0042-8639

Wilson, R.A. (1998). *Special Educational Needs in Early Years.* Falmer Press Limited, ISBN 0-10-095173-9, London

Vygotsky, L. S. (1996). On Inner Speech. In: *Language Development: A Reader for Teachers,* 13-17, B.M. Power & R.S. Hubbard (Eds.), Pearson-Merril Prentice Hall, ISBN 0-13-191032-9 New Jersey, Ohio. (Original Source: Thought and Language, 1962. MIT Press: Cambridge, MA)

Yoshinago-Itano, C. & Apuzzo, M. R. L. (1998) Identification of Hearing Loss After Age 18 Months Is Not Early Enough. *American Annals of the Deaf,* Vol. 143, No. 5, pp. 380-387

Yoshinago-Itano, C. & Sedey, A.L. (2000) Language, Speech and Social Emotional Development of Children Who are Deaf or Hard of Hearing: The Early Years (monograph). *The Volta Review*, Vol. 100, No.5, pp.



Hearing Loss

Edited by Dr. Sadaf Naz

ISBN 978-953-51-0366-0
Hard cover, 406 pages
Publisher InTech
Published online 28, March, 2012
Published in print edition March, 2012

Authored by 17 international researchers and research teams, the book provides up-to-date insights on topics in five different research areas related to normal hearing and deafness. Techniques for assessment of hearing and the appropriateness of the Mongolian gerbil as a model for age-dependent hearing loss in humans are presented. Parental attitudes to childhood deafness and role of early intervention for better treatment of hearing loss are also discussed. Comprehensive details are provided on the role of different environmental insults including injuries in causing deafness. Additionally, many genes involved in hearing loss are reviewed and the genetics of recessively inherited moderate to severe and progressive deafness is covered for the first time. The book also details established and evolving therapies for treatment of deafness.

How to reference

In order to correctly reference this scholarly work, feel free to copy and paste the following:

Zerrin Turan (2012). Early Intervention with Children Who Have a Hearing Loss: Role of the Professional and Parent Participation, Hearing Loss, Dr. Sadaf Naz (Ed.), ISBN: 978-953-51-0366-0, InTech, Available from: http://www.intechopen.com/books/hearing-loss/early-intervention-with-children-who-have-a-hearing-loss-role-of-the-professional-and-parent-partici

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