

A Review of Early Language Intervention for Children with Intellectual Disability

1Sarah Fawaz Al-Dosri, MA., 2Khalid Abu-Alghayth, Ph.D.

1King Khalid University, Abha, Saudi Arabia

Saraaldknan502@hotmail.com

2King Khalid University, Abha, Saudi Arabia

Kabualghayth@kku.edu.sa

Received 6-8-2024 Accepted 1-9-2024 publish 20-9-2024

Abstract

Numerous questions have arisen regarding how to care for and assist children with intellectual and developmental disabilities. Early intervention programs can be a great help for children with intellectual and developmental disabilities and for their families. This paper sheds light on the importance of early language intervention programs in the lives of children with intellectual and developmental disabilities. Moreover, the paper discusses the types of early intervention, strategies used by educators, and people who usually involved in the intervention is provided. Challenges regarding early language intervention for children with intellectual and developmental disabilities are provided. Further, studies on the use of early intervention are provided and discussed. Finally, factors influencing language development among children with intellectual and other developmental disabilities are synthesized.

Keywords: *early intervention, language, intellectual disability, children, review.*

Introduction

The birth of a child with intellectual disabilities presents a significant challenge for families, especially mothers, when social support and assistance are lacking. Mothers often experience a range of emotions upon learning about their child's disability, starting with shock, followed by denial and rejection, fear, and anxiety, and eventually moving toward adapting to and accepting the reality while seeking appropriate solutions for their child's condition (Saad, 2019). The quality of life for families of children with intellectual disabilities may change due to shifts in various family roles and the increased responsibilities borne by parents. Given mothers' innate emotional tendencies, they often assume a larger share of caregiving responsibilities, making them more susceptible to psychological challenges such as feelings of inadequacy, failure, and stress. Some mothers also perceive themselves as being under social scrutiny, which can influence social relationships within the family and the broader community (Al-Mutairi & Abdel-Warith, 2022).

Additionally, economic challenges further burden families in managing life's demands. Mothers often juggle multiple roles, racing against time to fulfill the significant effort required. Caring for a child with intellectual disabilities, while managing other household responsibilities, may lead to physical and emotional exhaustion. These challenges can deprive mothers of essential practices needed to adopt appropriate strategies for raising their child (Misura & Memisevic, 2017). It is important to note that not all characteristics can be generalized to all children with intellectual disabilities. What applies to one child may not necessarily apply to another, as this varies depending on factors such as the severity of the disability, the child's age, and the level of services provided at different stages. By comparing them with peers without intellectual disabilities of the same chronological age, distinct characteristics can be identified (Al-Rousan, 2016).

In terms of psychological and social characteristics, children with intellectual disabilities are often characterized by heightened feelings of loneliness and various forms of anxiety. They exhibit high impulsivity, hyperactivity, aggression, emotional dullness, a tendency toward isolation, hesitation, and slow responses. They also tend to have low self-esteem, weak self-confidence, and are more easily influenced by others (Ghanem, 2018). Due to their limited cognitive abilities and deficits in adaptive behavior skills, they face various social and

emotional challenges, often encountering failure in social interactions. This is exacerbated by lower societal expectations, as they acquire social skills more slowly than their peers without intellectual disabilities.

Generally, they show limited interests and inclinations and weak capacity for assuming responsibility (Al-Qamsh & Al-Maaytah, 2014). Physical and motor development among children with intellectual disabilities is often delayed and becomes more pronounced with the severity of the disability. These children tend to be smaller in size and weight compared to their peers without disabilities, which is evident in their external physical appearance, particularly in their upper and lower limbs, head, and facial features (Al-Qadi et al., 2022). They also experience significant delays in mastering gross motor skills, especially those involving complex reflexive movements. For instance, they may take longer to acquire walking skills and struggle with using fine motor skills requiring hand-eye coordination. Additionally, they have a higher prevalence of vision impairments, such as near- or farsightedness, and generally have poorer overall health and lower immunity, making them more prone to illnesses and fatigue. Although motor development among these children is often more advanced than other aspects of their development, their motor abilities remain weaker, particularly in fine motor responses (Al-Qamsh & Al-Maaytah, 2014; Nadimi Amiri, 2016).

Regarding cognitive characteristics, children with intellectual disabilities exhibit reduced learning capacity and low academic achievement, as well as noticeable difficulties with attention and memory in educational tasks. Their focus is limited in scope and duration, as they struggle to concentrate on more than one thing at a time. Their attention is easily distracted due to weak internal motivators, requiring constant external stimuli to focus on their surroundings or the primary subject (Al-Qadi et al., 2020). They also demonstrate limited abstract thinking abilities, preferring to rely on tangible objects and defining items based on shape or function (formal or functional perception). Their capacity for generalization is constrained, as this process requires a degree of abstraction (Aamer, 2019).

Moreover, they face challenges in organizing and processing new information, leading to irregular information retention. Problem-solving and reasoning tasks are particularly difficult for them, as are imagining places, objects, and their uses. To benefit from learning situations, they require repetition and diverse activities that engage multiple senses (Saleha & Al-Bustami, 2020). **Linguistic Characteristics of Children with Intellectual Disabilities** The linguistic development of children with intellectual disabilities generally follows similar stages to that of their peers without disabilities but differs in pace. Language disorders are expected in both groups, although they are more prevalent among children with intellectual disabilities. These disorders can be identified through direct observation or standardized language assessments, followed by implementing appropriate training programs (Al-Rousan, 2016). Language deficits are among the most significant challenges caused by intellectual disabilities due to the strong correlation between language and intelligence. Lower intelligence levels are associated with reduced language acquisition and increased language disorders. Children with intellectual disabilities often exhibit delayed speech, slow language acquisition, and limited vocabulary that does not match their chronological age. Consequently, their language proficiency is significantly below that of their peers without intellectual disabilities (Ghanem, 2018). Their limited linguistic abilities create substantial barriers to learning and communication, particularly during early childhood, where incorrect grammar usage and childlike speech patterns are prominent (Musafer, 2017). They also exhibit notable speech disorders, particularly omissions and substitutions of many sounds. Their speech may be marked by an inappropriate tone—either too low, too high, or monotonous.

Others exert significant effort while speaking, often resulting in unclear articulation due to airflow issues (Metwally, 2015b). Speech distortions frequently occur when these children attempt to imitate sounds, producing unclear sounds due to weak voluntary control over speech organs and articulation difficulties (Al-Laqani & Talaffha, 2023). Furthermore, they face challenges in linguistic awareness, particularly in employing language effectively, categorizing relationships, and understanding communication barriers. Even when such barriers are identified, they struggle to overcome them. They find it difficult to follow complex instructions and demonstrate a limited ability to understand and produce vocabulary. Their grammatical structures often result in imprecise or nonsensical sentences, and their response times are generally slower than those of children without intellectual disabilities (Fletcher et al., 2018).

Early Intervention

Since the 1950s, numerous questions have arisen regarding how to care for and assist children with developmental disorders. This led to the emergence of early intervention programs by the late 1960s, as attention

was focused on children with developmental delays who were at risk due to poverty and deprivation (Bedeir, 2009). Over the subsequent decades, early intervention practices have evolved significantly, emphasizing the content and tailored approaches required by this age group. This development laid the groundwork for establishing principles related to the roles of specialists and families, leading to tangible improvements in the efficiency of services provided. Notably, the Ministry of Education initiated a guide for early intervention, which is a key project for advancing special education. This guide serves as a reference for improving specialist competencies and supporting families (TATWEER Educational Services, 2017).

Understanding Early Intervention

Early intervention refers to the provision of diverse psychological, social, medical, and educational services to children with disabilities from the moment of detection until school age or to those showing signs of developmental delay. Despite variations in the nature of their challenges, their needs for these services are largely similar. Therefore, a multidisciplinary team is required to identify these needs and develop an individualized plan (Al-Khatib & Al-Hadidi, 2020). It has also been defined as enhancing the quality of life for children with disabilities or those at risk of developing them, from birth until six years of age, along with their families. This is achieved through a set of interventions that facilitate personal and social development and prepare them for full inclusion in regular schools (Al-Omrani, 2017). Al-Bar (2016), however, expanded this age range, defining early intervention as preventive and therapeutic services offered to children from birth to 12 years and their families. These services include early detection of disabilities and measures to prevent or mitigate their negative effects.

Additionally, early intervention has been described as a series of sessions provided to children with disabilities at a young age. These sessions are based on specific techniques and principles, focusing on activities and experiences designed to improve particular skills within a defined period. This process aims to enhance the social interaction of these children (Al-Qahtani, 2018). Another perspective by Sayed and Mazrara (2020) views early intervention as a program of counseling and training for families of children with developmental delays or disabilities during early childhood. These programs vary in intensity, aiming to help children achieve their maximum potential in development and growth. Active parental participation within a multidisciplinary team aids children with disabilities and reduces the potential challenges for families and society. Supporting this view, Fuller and Kaiser (2019) describe it as a range of educational, medical, psychological, and social services for children with disabilities or developmental delays up to the age of six, emphasizing active parental involvement for greater effectiveness. It is evident that early intervention is rooted in scientific principles requiring organized planning by a highly skilled team. This approach aims to achieve maximum adaptation for children with intellectual disabilities and their families. Most researchers agree that the age of six marks the upper limit for providing such services, supported by numerous justifications and the significance of this developmental stage.

Importance and Justifications for Early Intervention

Early intervention serves as the foundation for addressing various disabilities and their degrees due to the critical nature of early childhood, which is influenced by environmental and biological factors. These services target all aspects of the child's development—cognitive, motor, linguistic, and health-related. The earlier these services are implemented through organized planning, the greater their role in preventing or minimizing the effects of disabilities (Mikhail, 2016; Müller et al., 2019). It is noteworthy that brain functions develop rapidly during the early years, influenced by environmental inputs through the five senses (sight, smell, hearing, touch, taste). Education is more efficient and faster when these services are provided at the optimal time for a child's development (Caplan et al., 2016; Eni-Olorunda, 2015). Furthermore, developmental aspects are interrelated, with weakness in one area affecting others. This underscores the urgency of early intervention, as delaying these services increases the developmental gap between children with disabilities and their peers of the same chronological age.

Early intervention also reduces the need for special schools by facilitating inclusion in mainstream education, preventing the emergence of additional disabilities, and mitigating negative environmental influences that hinder progress. This period is crucial for imparting new skills, behaviors, and foundational experiences, thereby enhancing linguistic, social, and cognitive abilities (Owais, 2017; Almsbhiheen, 2016). Without these interventions during the most critical developmental phases, a child's response to learning may suffer, requiring more time, effort, and resources to acquire skills, often with less efficiency or failure to acquire them altogether.

(Alqudah & Talafha, 2018). According to Al-Omrani (2017), the primary goal of early intervention is to prevent disabilities and support children with developmental delays, reducing associated effects to ensure their independence and active participation in society. This includes equipping children with necessary assistive devices and fostering their integration into the community.

Moreover, early intervention extends beyond the child to support the family. It helps them accept developmental challenges, plan effectively, and achieve social and academic integration. Families face psychological challenges stemming from the shock and denial often experienced upon the birth of a child with disabilities. Hence, they require support to alleviate these difficulties (Aseeri, 2017). Parental involvement in early intervention reduces the financial and emotional burdens of raising a child with disabilities. Furthermore, parents need guidance and psychological support to avoid adopting unconstructive child-rearing practices. Their participation also provides feedback to specialists, enabling them to assess the child's progress and refine strategies. Involvement in planning and implementation also helps parents understand the child's needs (Shalabi, 2022).

Finally, early intervention is particularly significant in developing linguistic skills, especially when the mother is actively involved during the early years of the child's life. This period is crucial for language acquisition and cognitive development (Al-Sinjari, 2018). Given the outlined justifications—spanning psychological, economic, and developmental factors—diverse approaches and methods for delivering early intervention services are essential to ensure accessibility for all children with disabilities or those at risk of developing them.

Early Intervention Methods and Strategies

Despite the variety of early intervention methods, they all aim to achieve shared objectives, with no single method being inherently superior to others. Each child and family requires a tailored approach that suits their specific needs and circumstances. These methods are defined as strategies used to teach children with disabilities to develop their cognitive, motor, emotional, social, and psychological skills (Khatib & Hadeed, 2020; Abdulrahman Suleiman, 2014). Meanwhile, Al-Saqr and Al-Ajmi (2018) described these methods as techniques employed by specialists to train families on applying early intervention strategies for children with intellectual disabilities under their supervision and guidance. These approaches aim to improve deficits in linguistic, self-care, and other essential skills.

According to Shams (2018) and Farhat (2014), early intervention methods can be categorized into three main approaches:

1. **Home-Based Care:**

This approach involves delivering early intervention services to the child within their family environment. Here, the family serves as the primary educator, while the specialist evaluates, guides, and encourages the implementation of the program. Smythe et al. (2021) noted that this method is particularly suited for children with intellectual disabilities under the age of two in remote and rural areas with limited access to centers due to transportation challenges.

2. **Center-Based Care:**

Services are provided at a center by a multidisciplinary team during the morning hours. The family complements this effort at home, emphasizing the collaborative role of parents in the process.

3. **Hybrid Model:**

Combining home and center-based approaches, this model integrates children with and without disabilities in a center for five days, where they receive professional services. Families continue the education at home during the remaining days.

Additional methods include hospital-based intervention, focusing on children with severe developmental disabilities requiring frequent hospitalization, and consultation-based intervention, where families visit centers for scheduled evaluations and guidance. Al-Wedyan (2019) and Minns (2015) highlighted the role of media-based intervention, providing parental guidance through television, films, or printed materials. Programs like Portage, designed to train mothers under the supervision of a multidisciplinary team, offer support in areas such as linguistic, cognitive, and self-care development (Owais, 2017).

Another emerging approach is remote early intervention, introduced by Poole et al. (2022). This method enables specialists to connect with families via video conferencing, reducing the need for in-person visits. While Abdatt (2020) considers this method a secondary option, it remains valuable when direct services are unavailable, particularly for assessment and guidance purposes.

The Early Intervention Team

The multifaceted nature of early intervention methods necessitates a multidisciplinary team to address all aspects of a child's development comprehensively. The selection of team members depends on factors such as the services provided and the skills required for delivering these services effectively (Zraiqt, 2016). Professionals involved in early intervention programs must possess competencies such as working efficiently within multidisciplinary teams, quickly identifying symptoms of various disabilities, and setting both short- and long-term goals. Knowledge of typical and atypical developmental stages is crucial, along with the ability to foster positive interactions among children with diverse abilities (Khatib & Hadeed, 2020). Planning is one of the most critical tasks of the team, often conducted within the framework of an individualized plan. This requires collaboration between professionals, families, and consultants to ensure a comprehensive approach that addresses the child's and family's unique needs (Al-Qamish & Al-Juwalida, 2014).

Challenges in Early Intervention

Families play diverse roles in early intervention, including observers, information providers, decision-makers within the team, advocates, and educators during the child's early years (Zraiqt, 2015). However, several challenges hinder the effectiveness of early intervention programs:

- **Denial and Misconceptions:**

Some families deny their child's disability, believing improvement will occur naturally. Relatives may provide reassurance based on unsubstantiated optimism, while some doctors focus solely on medical perspectives, overlooking developmental aspects (Khatib & Hadeed, 2020).

- **Access and Awareness:**

A lack of preventive programs and tools, insufficient dissemination of existing programs in geographically complex areas, and low public awareness reduce the reach of early intervention efforts (Biblawi, 2014).

- **Professional Shortcomings:**

The shortage of qualified professionals, inadequate parental training programs, and insufficient integration of family needs into program designs lead to dissatisfaction with early intervention services (Anouz & Ibrahim, 2022).

- **Parental Misalignment:**

Families may have unrealistic expectations for their children's progress, while specialists adhere to developmental sequences, causing misunderstandings (Abdulrahman Suleiman, 2014).

Success Factors in Early Intervention

Key factors for successful early intervention include early detection of disabilities, providing appropriate services tailored to children's needs, and ensuring that team members possess the necessary professional competencies (Bougazzi & Aribi, 2015; Minns, 2015). Flexibility in designing individualized educational programs and timely service delivery are crucial, as delays can adversely affect later developmental stages (TATWEER, 2017). Gathering comprehensive information about the child from all available sources, assisting families in adapting to the new situation, and creating a culturally sensitive program fosters better outcomes (Al-Amrani, 2017). Furthermore, educating parents about atypical developmental indicators and encouraging inclusive practices, such as enrolling eligible children with disabilities in early childhood programs, are essential (Al-Harbi, 2020).

Addressing families' needs, particularly financial support, medical and educational assistance, and access to professional consultations, significantly reduces the psychological and practical burdens associated with raising a child with intellectual disabilities (Rakeza, 2017). Social support from relatives and friends also mitigates psychological stress and isolation, highlighting the importance of community involvement (Quraity, 2014).

Lastly, innovative techniques like video-based feedback for training sessions and diverse modes of communication, such as in-person meetings or electronic correspondence, enhance the parents' ability to implement linguistic intervention strategies effectively (Palafox, 2016; Silvia, 2019). By involving families in discussions about strategies and timing, children's expressive language skills can improve significantly, fostering better communication outcomes (Topping et al., 2013). Language remains a cornerstone in the development of children with intellectual disabilities, emphasizing the importance of early detection and intervention to address language disorders and enhance communication abilities (Kaouash, 2020).

1. The Concept and Aspects of Language

Language serves various functions, including the utilitarian function, which fulfills the child's needs and allows them to express their thoughts. The interactive function enables communication and interaction with others, while the regulatory function controls behavior. The exploratory function helps the child understand their environment (Mansaf, 2021). Language is defined as a system consisting of a set of phonetic symbols with socially recognized meanings, which can be either written or spoken (El-Sayed, 2016). Another definition describes it as a symbolic auditory system with specific meanings used for communication, encompassing facial expressions, tone, inflection, and other symbols. It is a critical indicator of mental and emotional development. Any misuse of language can lead to misunderstandings in social contexts, whether verbal or non-verbal (Al-Biblawi, 2015; Metwally, 2015b). Al-Ghazali (2018) emphasized that language is a means of self-expression, cognitive, emotional, and mental communication to exchange ideas and emotions, facilitating social interaction.

Language is divided into two main aspects: receptive language and expressive language. Receptive language is defined as the child's understanding of spoken language across its various aspects, such as syntax, usage, and semantics (Prelock & Hutchins, 2018). It can also be described as non-verbal language, involving the ability to listen, process, and utilize language without verbal expression (Al-Otaibi et al., 2020). This includes skills like listening, comprehension, language use, and processing auditory information for effective communication (Al-Nahdi & Al-Kathiri, 2022). Expressive language refers to the ability to produce linguistic messages by selecting the appropriate method and transmitting them to the speech muscles to form words or sentences for successful communication (Nzerem & Nzerem, 2021). Al-Otaibi et al. (2020) describe it as verbal language, including spoken and written language, sign language, and articulation.

2. Stages of Language Acquisition

Many families lack knowledge of the normal stages of child development, and the absence of this awareness can delay identifying signs of developmental disorders, especially during the first two years of life. The stages of linguistic development in healthy children serve as a model for early detection of language disorders (Al-Shehri, 2018). These stages are divided into:

a. The Pre-Linguistic Stage:

This begins with crying and screaming, extending from birth to two months. The newborn's cry is critical for language development, providing oxygen for breathing. Crying is the sole means of expressing needs like hunger, pain, or anger. Some cries may have no specific meaning but help train the vocal cords and speech apparatus. The cooing stage follows, from two to five months, during which infants begin to distinguish sounds and engage in early interactions with their caregivers (Al-Biblawi, 2015; Atiya, 2015). The babbling stage occurs between four and seven months, where infants produce sounds in response to external stimuli, not necessarily imitating others but exercising their speech organs. This stage strengthens the bond between mother and child, as the child repeats sounds reinforced by the mother (Al-Biblawi, 2015; Metwally, 2015b). Around seven to twelve months, repetitive vocalizations like "mama" and "baba" emerge, although they lack meaning initially. Language becomes more complex, and children enjoy vocal interactions. A lack of such vocalizations may indicate communication challenges.

b. The Linguistic Stage:

During the early months of the second year, children begin to use single words to signify multiple things. This phase is called linguistic latency, where the child understands words but does not express them verbally. By the second half of the second year, two-word sentences emerge, often without proper grammatical structure but meaningful to the child. From ages three to four, linguistic development accelerates, with children forming sentences of three or more words and using grammatical rules. Pronunciation improves, though issues like omission or substitution may persist until early school age (Metwally, 2015b).

Factors Influencing Language Development

Several factors influence linguistic development, including the family environment. A warm and harmonious family relationship encourages children to express emotions and thoughts, promoting respect and confidence (Al-Biblawi, 2014). The family's cultural and economic status also impacts language, offering varied stimuli and experiences. However, exposure to colloquial and classical Arabic simultaneously may confuse children in selecting appropriate vocabulary (Abdel-Hamid, 2015).

Other influences include parental interaction during the early years, emphasizing the importance of linguistic engagement (Al-Najjar, 2019). Parenting styles, such as excessive pampering, neglect, or favoritism, can negatively impact speech (Metwally, 2015b). Neurological health plays a significant role in language production; any pre- or post-natal trauma affecting the nervous system can impair linguistic growth (Abdel-Ghani, 2016). Furthermore, disorders like ADHD, learning disabilities, or hearing impairments hinder receptive and expressive language skills. Excessive screen time, particularly television, restricts language acquisition, as children require interaction with sensory stimuli and others to develop cognitive and linguistic abilities (Hill, 2016).

Language Disorders

Language disorders refer to issues related to the language itself, such as delays, improper usage, or challenges in reading, writing, or grammar (Al-Nawaisah & Al-Qatawneh, 2015). They include problems in receptive language (understanding) and expressive language (speech production).

a. Receptive Language Disorders:

These occur when comprehension is impaired, affecting areas such as semantics (word meanings) and phonology (speech sounds). For instance, a child may struggle with synonyms, antonyms, or matching words with their meanings. Cognitive challenges also impact skills like categorization, problem-solving, and describing surroundings, which are essential for academic and social integration (Metwally, 2015b).

b. Expressive Language Disorders:

These involve articulation issues, such as sound substitution, omission, or distortion. Examples include saying "thiarah" instead of "sayarah" (car). Stuttering, characterized by repetition or prolongation of sounds, and muteness due to neurological damage, also fall under expressive disorders (Saad, 2015). Addressing these challenges requires early diagnosis and intervention tailored to the child's strengths and weaknesses in receptive and expressive language.

Acknowledgments

The authors extend their appreciation to the Deanship of Scientific Research at King Khalid University for funding this work through Small Group Research Project under grant number RGP1/274/45.

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