

EXPLORATION OF INNOVATIVE THERAPY APPROACHES AND PARENTAL INVOLVEMENT IN SPEECH DEVELOPMENT OF AUTISTIC CHILD: A TRANSACTIONAL DEVELOPMENTAL PERSPECTIVE

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Abstract

Autism spectrum disorder (ASD) is a neurodevelopmental disorder that significantly impairs language development despite increasing awareness and the availability of various therapeutic interventions. Children with autism encounter multiple challenges, with communication difficulties being a core characteristic of the disorder. These challenges often necessitate individualised speech therapies to address specific needs effectively. However, research on targeted interventions and therapeutic strategies to support individuals with ASD remains limited. The current qualitative study explores traditional and innovative therapeutic approaches, along with the role of parental involvement, through in-depth interviews with speech therapists experienced in working with ASD children. Sameroff's Transactional Model (2009) as a theoretical framework has been used, incorporating both physical and mental aspects of language development. Findings indicate that targeted speech therapy techniques significantly improve language abilities in autistic children and the effectiveness of these interventions depends on various factors. Additionally, this study highlights the critical role of active parental engagement in complementing therapeutic interventions for language development. Results reveal that emerging approaches are transforming traditional speech therapy by enhancing social interactions and improving communication skills in children with ASD. Findings also suggest that integrating specialised speech interventions with innovative therapeutic methods and strong parental support can greatly enhance language development.

Keywords: *Autism Spectrum Disorder, Language Development and Speech Therapy.*

1. Introduction

Language is a system of symbols that helps to communicate, convey meanings and develop social connections (Croft, 2001). In other words, language is a system of signs which are a combination of concept and sound pattern. Therefore, language is considered a fundamental aspect of human communication that facilitates cognitive development, social interaction and emotional expression. Furthermore, Noam Chomsky, in his book “Syntactic Structures” (1956), elaborates, “Language is not simply a matter of vocabulary and grammar, but rather a system of rules and

principles that generate an infinite number of possible sentences from a finite set of words and phrases”. In addition, language development is a complex process that is described by linguists into certain developmental stages from infants to adults. Children typically acquire language skills rapidly between the ages of 2 and 5 (Kuhl,2004). Language covers multiple aspects such as phonology(sounds), morphology(word structure), syntax(sentence structure), semantics(meaning) and pragmatics(contextual communication). According to Kuhl, language development is influenced by a combination of genetic, environmental, and social factors. Speech, on another note, refers to the physical production of language, including articulation, fluency, voice and prosody. Speech development is interconnected with language development. A normal child starts to babble around 6 months and utters their first word around 12 months. However, for some children, it is challenging to develop language, and they often experience significant challenges with their speech. Common speech difficulties observed among such individuals include apraxia, stuttering, echolalia and articulation disorder. These speech disabilities highly affect the communication abilities of these individuals. Moreover, it can have an impact on their social and academic life. One of the groups of individuals that often face language and speech development challenges is those with Autism Spectrum Disorder (ASD). Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder characterised by difficulties with social communication, social interaction, and repetitive behaviours (American Psychiatric Association, 2013). Individuals with Autism have delayed or absent language development and have difficulties with verbal and nonverbal communication. Despite such language development challenges, worldwide individuals with Autism Spectrum Disorder are being treated with several speech therapies such as Applied Behavioural Analysis (ABA), Picture Exchange Communication System (PECS), and so on. Research has shown that these traditional methods have significantly improved the speech development of individuals with Autism. Along with these traditional methods, the field has shifted to innovative approaches, aiming to treat children with ASD with innovative strategies. Unfortunately, knowledge and awareness regarding ASD are low among Pakistani healthcare professionals. It is also not uncommon in Pakistan for a parent to take the child to different healthcare professionals and get different diagnoses, as each professional views the child through their speciality lens. Children with autism may end up getting the diagnosis of different irrelevant disorders (Imran, N., & Azeem, M. W., 2014). Besides speech therapies, parental involvement is also considered fundamental for treating children with Autism spectrum disorder (ASD), as they

play crucial roles in framing their child's communication, behavioural and social patterns. Research has shown that parental involvement significantly improves therapy outcomes. On the contrary, many parents of autistic children hold superstitions and misconceptions about the condition, believing it to be caused by evil spirits or curses. This mindset often leads to delayed diagnosis and treatment, exacerbating the challenges faced by autistic individuals. Consistent research is being conducted to address different traditional methods for handling autistic individuals. However, a gap exists in addressing the targeted interventions and strategies to meet the diverse language needs of autistic children, as each individual requires a specific approach based on their physical and mental age, severity level, behavioural pattern, etc. This research paper aims to address targeted strategies and interventions required to meet the various language needs of autistic children, based on their autism profile. Moreover, this study acknowledges the role of parents in the collaboration of speech therapists to support the language development of autistic individuals. At last, this study explores the effectiveness of combining traditional speech therapy methods with innovative and modern-day approaches to treat individuals with Autism Spectrum Disorder (ASD).

1.1 Literature review:

According to Charles Barber (1964), Language is more obvious than anything else, distinguishing a man from the rest of the animal world. It is the foundational instrument for effective communication, enabling individuals to express thoughts, share information, facilitate social interaction, and build relationships. Additionally, Communication is vital to human interaction, and when some individuals experience a language disorder, their ability to engage with others can be impacted. Moreover, among all language disorders, Autism spectrum disorder is one of the disorders, which is a neurodiverse condition observed in individuals characterised by disabilities in communication and a lack of social interaction. American Psychiatric Association (2022), states that atypical communication and social behaviours are typically the first warning signs of autism. On the other hand, researchers also reveal that children with autism express significant perceptible delay in language and communication development compared to other neurotypical children (Özyurt &, Eliküçük 2018). However, Early diagnosis and intervention, particularly by speech therapy (ST) and its strategies for speech disorders adopted by speech therapists, are essential for fostering and enhancing effective communication skills with their social and emotional

development among children with language delays. According to choo et al. (2022) parental participation in applied behavioral analysis therapy (ABA) involves frequent therapist interaction, behavioral tracking and active play, the study suggest that applying these therapy techniques of applied behavioral analysis therapy (ABA) daily fosters a safe environment that reduces behavioral regression. the study also notes that demanding professional lives and high-stress environments can significantly diminish the quality of this involvement. Another study by Lucero Alban et al. (2024) indicates that a mix of home based natural settings and clinical applied behavioral analysis therapy (ABA) strategies can lead to independent living of children with Autism spectrum disorder (ASD), the study argues that a holistic focus one that treats the parents well being is as important as child therapy , it is the only way to ensure long term success and adherence.

Despite the importance of speech therapy (ST), a gap exists in the research on mentioning effective strategies, the role of parents and innovative approaches to support children with Autism spectrum disorder (ASD). This literature review aims to examine and integrate the existing studies and pave the way for future research directions. Present researchers have constantly mentioned diverse speech therapy (ST) methods followed by professionals while dealing with autistic children, suggesting that the amalgamation of speech therapy with play therapy impacts the cognitive and emotional development of an autistic child. Another strategy reported to meet autistic needs is Parent-Implemented Intervention (PII). Studies indicate that an Autistic child is likely to improve the outcomes of therapeutic intervention with therapy and Parent-Implemented Intervention. Besides speech therapy (ST), the role of parents also plays a crucial role in improving speech abilities, along with their confidence and social interaction with children with Autism spectrum disorder (ASD).

To investigate the parents' role, research was conducted in which two interventions were involved, i.e. with parental involvement and without parental involvement. The study concluded that Peer Social connections for children with speech language disorders can result in notable improvements.

In short, the research highlighted that parents play a vital role in developing communication and social skills (Guo & Keles , 2024). but a gap exists in exploring their role in enabling technology-based therapies. In general, a valuable contribution was observed in the parent-child interaction

style with respect to the use of language models, rate of communication, and responsiveness due to parent training. As far as innovation and advancement in speech therapy, A recent study by Beirt et al. (2025) describes a paradigm shift caused by the convergence of technology and artificial intelligence (AI) in the field of autism highlighting its critical role in lowering the age of diagnosis the research recommends that Speech therapeutic techniques demonstrate flexibility and dynamic discipline that continuously adapt to the needs of individuals with communication disorders. Despite these findings, there is a need to identify specific effective strategies and techniques for speech therapy (ST).

Study Objectives:

- To uncover different strategies adapted by speech therapists to meet unique language needs of autistic children.
- To explore key innovative approaches to speech therapy along with parental involvement in improving language development.

2. The present study

In the context of autism (ASD), this study plays a significant role as it has the potential to address more effective and personalised interventions that contribute to the language development of Autistic individuals. Theoretically, by introducing the need to employ different strategies and interventions to meet various language needs of autistic children, this research paper aims to highlight significant gaps in existing data. However, practically, this research contributes to examining combining traditional speech therapy methods with innovative approaches to support the language development of individuals with Autistic Spectrum Disorder. Further significant outcomes of this paper include guiding parents to team up with speech therapists to help their child's language development.

2.1 Context

Over the years, Millions of children worldwide have been affected by Autism Spectrum disorder, creating challenges in language, emotional development and communication. Autism has emerged as a concerning area to speculate on in language research due to its profound impact on the communication styles of autistic individuals, particularly children. While many therapeutic

methods have been widely studied and used, there is a limited understanding to identify how therapeutic strategies can vary concerning the needs of autistic children. The lack of insights results in a mismatch between therapeutic approaches and the unique needs of individuals with autism.

Moreover, the role of parents and caregivers concerning autistic children is not significantly highlighted, regardless of their potential involvement in improving language, alongside therapeutic intervention. To address the issue, this study aims to uncover innovative approaches to speech therapy to improve the quality of life for individuals with autism.

2.2 Field Notes and Interviews as Data

The primary data collection for this research is conducted through field notes and interviews with speech therapists. A purposive sampling strategy was adopted to select participants with firsthand experience in connection with autism (ASD) and autistic children. Participants were conscribed via homogeneous sampling and selection was made on the following criteria of being a speech therapist.

In addition to this, data collection continued until sufficient data was collected, assuring an in-depth and comprehensive understanding of the research question. These observations took place by visiting around 10 speech therapists with experience of more than 10 years who have worked with autistic children with different severity levels and language deficits in their careers. Data collection was accomplished using semi-structured interviews of speech therapists through which the researcher investigated and highlighted the challenges that autistic children face while communicating and how different strategies by speech therapists are adopted and implemented according to the age of diagnosis and severity level of a child having Autism (ASD).

Similarly, their views and opinions about parental participation to strengthen the language development of autistic children, along with the therapeutic techniques were taken by researchers. They also gathered speech therapists' perspectives regarding the modernistic technologies and their future outcomes for Speech therapy. Accordingly, it is significant to consider that the permission of all the participants was taken into account, and the interviews took place in their respective offices; thus, the semi-structured interviews were utilised to gather rich contextual data on participants' experiences and perspectives.

2.3 Data Analysis

The data collection for the study was conducted through a qualitative research method, selected for its ability to provide rich in-depth insights into diverse therapeutic methods to meet the language needs of Autistic children. This approach allowed the researchers to capture the participants' perspectives and experiences authentically, offering a more detailed and subtle understanding of the research subject. Qualitative methods are beneficial in social sciences, as they focus on exploring subjective experiences and meanings. Therefore, to analyse the collected data, the researcher applied qualitative content analysis to gain deeper knowledge and understanding. The main purpose of this analysis was to examine textual data collected from interviews with speech therapists, research articles and key field notes to address the effective solution for an underlying problem mentioned in the study.

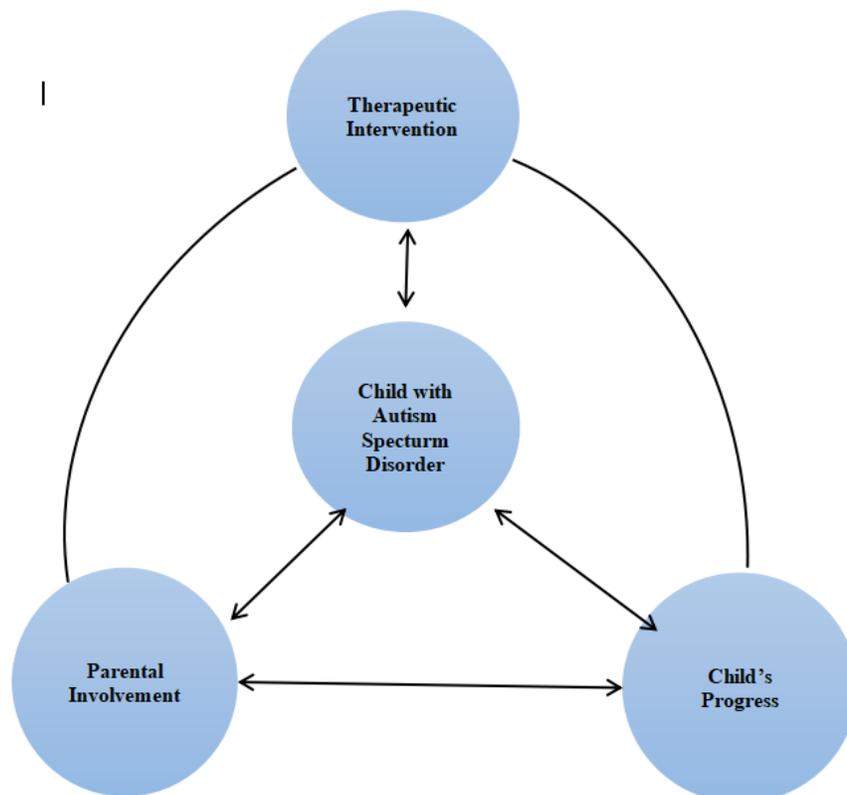
2.4 Theoretical Framework:

This study is grounded in the Transactional Model of development by Arnold J. Sameroff, an American developmental psychologist. The transactional model of development asserts that development results from continuous and bidirectional interactions between the child and the environment (Sameroff, A., 2009). As emphasised by Sameroff, this perspective highlights that both the child and their context are dynamic entities, each influencing and being influenced by the other over time. Using the framework of the Transactional Model of development, this study, “Exploration of Innovative Therapy Approaches and Parental Involvement in Speech Development of Autistic Child,” will examine how the child, parents, and chosen therapeutic strategy influence each other through bidirectional interaction, leading to communication development over time. In adaptation of therapy for Autism, parental engagement is not passive but an active process, where the therapeutic approaches and parental engagement interact for better outcomes in the child’s communication and behavioural needs. The Bidirectional nature of this developmental model is significant in Autism, where the child’s receptivity, parental support and therapeutic adjustments to meet their unique needs co-evolve. Expanding upon this model it provides flexibility and dynamic adaptation for developmental pathways. Therefore, this proposes that there is no single trajectory for development: different environmental and individual factors

are there in development, allowing therapists to adopt innovative therapy approaches for unique outcomes in the communication of an Autistic child.

Thus, the Transactional model of development presents a framework to comprehend the bidirectional approach of parental involvement along with therapy for an Autistic child. By acknowledging the dynamic adoption and mutual influence between parent and child, this study explores how Innovative therapy methods can be adopted to improve communication outcomes through responsive and active parental engagement.

Fig 1. Bidirectional nature of Transactional Model



3. Results:

The present study explores language disabilities of individuals with Autistic Spectrum Disorder (ASD), the findings aims to investigate strategies for supporting their language development. According to the data collected, it was observed that autistic children mostly face challenges with repetition of words, lack of vocabulary and sentence structure. Moreover, it was recorded that certain factors have a profound impact on their language development, including age of diagnosis, severity level, family involvement, verbal and nonverbal status, and lastly, their behaviour.

The results focus on need of particular interventions required to meet their individual language needs; therefore, various strategies can be used to address communication challenges faced by autistic child. Based on speech therapists' perspective, a child's age is the major factor that influences the choice of therapy method for each patient. If a child comes under the cognitive age of 1 -4 years. Most speech therapists prefer to employ visual aid therapy, which facilitates communication skills with the help of visual material such as pictures, images, diagrams, videos and animations. This therapy supports the language development of autistic children by enhancing their cognitive skills, memory and expressions. Another effective therapy implemented on this age group is play-based, as autistic children face difficulty with processing emotions. This therapy is utilised to promote their emotional healing through play-based activities. For example, toy selection engages autistic children to play in a natural way that helps them to socialise. Speech therapists also mentioned productive outcomes of imitation-based therapies, this therapy include techniques such as repetition, modelling and mirroring. By incorporating these techniques, therapists support autistic children in building confidence, emotional stability and improving their quality of life.

Additionally, Speech therapists have asserted that severity level is another factor to influence the choice of therapy based on their verbal and nonverbal communication status. Different therapies are applied respectively. However, Interviews indicate that maximum cases are reported of non-verbal autistic children, and for them, speech therapists use methods such as motor, Imitation therapy, augmentative and alternative communication (AAC) therapy, picture exchange communication system (PECS) and gesture therapy to develop functional communication. Besides

non-verbal difficulty, behavioural pattern is another challenge for speech therapists to deal with. Behaviour patterns such as attention deficit, hyperactivity, aggression, impulsivity, self-injurious behaviour, sensitivity, and disruptive behaviour are major obstacles to hinder their participation ability, connectivity, and responses towards therapy. To treat such autistic individuals, professionals make use of applied behavioural analysis (ABA), for example, rewarding their desired behaviours for positive reinforcement. Commonly, this method is combined with other speech techniques to help a nonverbal autistic child.

Secondly, the role of parents in facilitating language development in autistic children was mentioned by speech therapists; children who received family support demonstrated greater progress in their language development. Family can play a vital role in promoting speech therapy goals by showing positive responses towards therapy, maintaining consistency in attending therapy sessions, and diligently performing home tasks as guided by their child's therapists. By reinforcing these practices, families can contribute profoundly to enhance the effectiveness of speech therapy. Moreover, supporting the last objective of this research paper, collected data indicates the emergence of modern speech therapy approaches such as Stem cells, talkative tools, and the use of Artificial Intelligence for enhancing communication in autistic children concerning their needs. These innovative techniques aim to support traditional therapy methods for beneficial results.

4. Discussion

The findings of the study strongly suggest a joint effort of parent and therapeutic intervention for language development in a autistic child. It emphasis the idea that parental involvement is not merely a supporting factor, but an important driver of therapeutic success in children with Autism Spectrum Disorder (ASD). The result section mentioned particular interventions to meet unique needs of autistic child, parental involvement and innovative therapeutic interventions, this uncovers a deeper shift from static and traditional nature of speech therapy to an active, bidirectional and innovative one. Additionally, the success in this study shows that the emotional bond between parent and child creates an environment of language development that professional setting fails to replicate. The findings align with the Transactional Model of Development by Same off, which suggests that a child s development is a Bidirectional process. However, this study contrasts with earlier models prioritizing only speech therapist role without considering specific interventions and innovative methods along with parent’s involvement. However, there remains a

notable limitation of awareness in parents regarding speech therapy and their role in language development of child with Autism Spectrum Disorder (ASD).

5. Conclusion

The study demonstrates parental involvement as the cornerstone along with therapy methods. By analyzing the integration of therapeutic strategies into home, the findings uncover that when parents integrate therapeutic strategies in naturalistic and comforting setting such as play time and bed time, the child receives continuous language input that far exceeds the impact of isolated one hour therapy session. It is evident that parents involvement does not merely support therapy they amplify it. However, the analysis also reveals gap in practical implementation by parent's side, while they showcase high flexibility of their engagement with their child, there is still lack of consistency. This lack of structure and continuity represents a critical obstacle to long term progress and language development in a non-verbal child. Similarly, as modern autism support grows more advanced, prioritising innovative therapeutic interventions remains the most viable method for securing meaningful improvement in language development of Autistic child.

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