

Effect of “EYE to ‘I’[®]” - An Early Intervention Model on Social Language Development for Children with Neuro- Developmental Difficulties

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ABSTRACT:

Recent research on services available for early intervention in New Delhi, India highlights that, there exists a lacuna between the services available and needs of a child with neurodevelopment disorder. The dual needs of a special child, which define his age and his syndrome, are not appropriately focused by the services available in India. The focus of the services available is on making the child adaptive to environment and scholastic skills. It is strongly felt that the focus should be on skill development of the child, to make him socially interactive, expressive and developing his theory of mind. The paper presents an Early Intervention Model, Eye To ‘I’[®], which includes an integration of language therapy in play -based interaction with special education, speech therapy and occupational therapy. The study highlights the significance & suggested effectiveness of this comprehensive, play-based model for Social Communication and language development in children diagnosed with neurodevelopment disorders, mainly autism.

Keywords: Neurodevelopment disorders, autism, Early Intervention Model, language therapy in a play way, skill development

[Advances in the past decade coupled with better training and sensitivity of health care professionals have resulted in early identification of children presenting with social and communication difficulties and those who are ‘at risk’ or show soft signs of autistic spectrum disorders. This trend is not only seen in the ‘developed’ countries, but also world-wide, including India. Early identification fortunately opens the doors to accessing interventions that would help with acquiring some of the skills that may help with better prognosis in the future.]

Autism is a complex neuro-developmental disorder that severely compromises functioning in multiple developmental domains: non-verbal and verbal communication, social understanding, relatedness, reciprocity and participation, play and cognitive and adaptive functioning.

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The nature of difficulties and their widespread manifestations in numerous, significant life experiences across the lifespan, beginning in early childhood, have fuelled research, interventions and clinical work in various directions, however, it is clear that early childhood is a period of significant growth and development - suggesting this time period as the most critical for therapeutic intervention.

Early childhood is a crucial phase of growth and development; The critical periods of socio-neurodevelopment experienced in early childhood, lay the essential building blocks for learning and interaction This development is supported by universal characteristics of early development, including most rapid development in early years, sensitive, ‘critical periods’ for development occurring during this time period with a documented need for ‘nurturant’ physical, social, and economic environments . The importance of the early development period and the presence and impact of optimal childhood environments emphasize the overarching importance of Early Childhood Intervention in ‘at –risk’ populations. For children who experience disability, it is a vital time to ensure access to interventions which can help them reach their full potential.

Effective ages for best intervention outcomes:

Research into early intervention indicates greater efficacy for intervention in the preschool years. However, earlier and earlier diagnoses of ASD & related difficulties allow for interventions below the age of typical preschool age of three or four, such as 18-30 months of age (Charman, T. 2003); 18-30 months of age (Dawson G., Autism Speak, http://www.autismspeaks.org/press/early_start_denver_model.php). The effectiveness of intervention at differing ages and stages of early childhood needs to be explored further through comprehensive research across environments.

Approaches to intervention:

There are many schools of thought regarding intervention, each with its own understanding of autism, philosophy and principles of bringing about change. Broadly speaking, these different interventions can be organized into three main streams i. behavioural based interventions, such as ABA, DTT & Lovaas influenced models ii. developmental interventions, such as the DSP model, ‘Floor-Time’ & RDI and iii. Combined interventions, which include TEACCH & the Early Start Denver Model.

Numerous researches for these different approaches to intervention exist along with researches comparing the outcomes of these interventions. Systematic reviews (Zachary et al., 2011; Maria B. Ospina) assert the lack of well researched data to conclude the effect of one model over the other. Moreover, there is no research that equivocally shows improvement in core symptoms of ASD (footnote 4). In addition, the applicability and effectiveness of these varied intervention approaches in the Indian context remains unknown. Within this scenario, it might help to

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understand the important focus areas for any Early Intervention and target them with an intervention philosophy the therapist and family best ascribe to.

FOCUS AREAS OF EARLY INTERVENTION: THE ROLE OF JOINT ATTENTION & PLAY

Prelinguistic & Pre-play skills

The Eye to ‘I’ model uses play and the development of play skills as the foundation for therapeutic intervention. This approach is based on research that highlights the significance of play for social, emotional and cognitive development of all children, as well as for children with ASD (Sigman & Ruskin, 1999; Stone & Yoder, 2001). Furthermore, numerous studies point to the intersection between pre-linguistic functions (protodeclarative pointing, showing objects, joint attention, affective exchanges) and precursors to social relatedness functions, referred to in this paper as pre-play or early play skills, (such as orienting to name, gaze to faces, joint attention, and affect sharing) as necessary components of early play stages. Significantly, these same functions are typically underdeveloped or delayed in the autistic child. (e.g., Baron-Cohen et al., 1996; Dawson, Hill, Spencer, Galpert, & Walson, 1990; Lord, 1995; Sigman, Mundy, Sherman, & Ungerer, 1986; Stone, Lemanek, Fishel, Fernandez, & Altmeier, 1990).

Joint Attention

A well-researched marker of both prelinguistic and pre-play skills is joint attention. The skill of joint attention has found to correlate significantly with skills in social communication, linguistic development, and inversely to the presence of ASD symptoms (Rogers & Lewis 1989; Koegel 2000; Lord 2000) (Sigman & Ruskin, 1999; Stone & Yoder, 2001) Charman T. (2003). Given the depth of involvement of joint attention in overall skill development during early childhood, Joint attention skills have further implications in various types of play skills for all children, typically developing, or with neuro-developmental difficulties; and hence both as intervention foci as well as therapy contexts.

The Value of Play

The basis for play-based early intervention is supported by studies that explore prelinguistic skills and pre-play skills, such as joint attention, and the development of complex play and language. Researches have found that addressing joint attention therapeutically leads to stronger play skills and language. Specifically, evidence supports the relationship between play and language communication, with certain developments emerging first in play and subsequently in language. [Lewis V.](#), 2003; Lewis V. Et al., 2000 [Kasari C.](#), et al., 2008, 2012.

This cycle of impoverished play opportunities for children with ASDs may be broken through play based intervention. However, as seen in goal priorities of many intervention programs, “play is more likely to viewed as a luxury to be targeted only when more basic deficiencies have been remedied.” (Wolfberg, P.J. & Schuler A.D.).

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Implications for play setting:

Studies indicate peer social interactions tends to be most common when children are participating in sociodramatic/pretend play activities (Odom et al.,2006; Sontag, 1997) and less common during more structured activities; children are more likely to engage socially with peers during child-initiated activities than during teacher-directed activities (Innocenti et al., 1986)

There seems to be value in setting intervention wherein children with ASD get opportunities to be in a scaffolded play environment with the therapist being in the role of a ‘play partner’ rather than ‘teacher teaching to play’.

Play philosophy

Hughes (2003) defines characteristics of play as having • freedom of choice • giving personal enjoyment and • where focus is on the activity itself rather than its outcomes. Elaborating this further, an activity may be considered play when it is intrinsically motivated, controlled by the players, concerned with process rather than product and characterized by the active engagement of the players

(<http://curriculum.nesd.ca/Subjects/Kindergarten/General/Ministry%20Kindergarten%20Supports/The%20Importance%20of%20Play.pdf>)

In our view, any play intervention with children should be an inter-play of understanding the above play philosophy along with the scaffolding needs the children have owing to the disability. Williams (2003) reviewed the empirical evidence relating to the development of early solitary object and parent-infant play in typical infants and children diagnosed with autism and found that only 7% of 161 studies making reference to play in autism actually focused on play. An examination of the goal inclusion in the curriculum / target skills of different intervention models reveals that play-skill is indeed a target in nearly all of them. However, when play is perceived as a discrete set of skills, precisely operationalized scripts and training sequences, it threatens the very essence of play (Wolfberg, P.J. & Schuler A.D.). Thus, the Eye to ‘I’ model uses a free form of play in which therapists are acutely aware of stages of play, yet do not have a scripted set of actions, or a ‘training model’. Instead the ‘Eye to ‘I’ model relies on demonstrated incremental play skills - and recorded observations of play skill acquisitions.

Our rationale for embedding intervention within a play context as well as actively targeting the play of children stem from above discussed, three parallel strands:

- Play is both the driving force as well as a mirror of development. Through play children not only explore and learn; they also experiment with their learning, apply and consolidate it, thus forming base for further learning in domains of motor, social, language, and cognitive development. (From various readings of Vygotsky and Piagets theories of development)

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- Spontaneous, diverse, flexible and interactive qualities of play are lacking in children with ASD (Wolfberg, P.J. & Schuler A.D.), these stemming from the core deficits in ASD; hence intervention to improve play skills has the potential of targeting the core skill deficits of ASD.
- It is the entry point and the most essential skill in peer interaction and social integration, without which children with ASD remain isolated. Innocenti et al. (1986) found that for preschoolers who were typically developing, peer interactions occurred most often when children were engaged in free play.

This is however, a conceptual paper with limited data. We hope the paper creates enough interest for detailed future research.

EYE TO’ I’ IMPLEMENTATION, METHODOLOGY, DATA & DISCUSSION

Method

The objectives of the present study were to examine the impact of the play-skills on social-communication (Non verbal and Verbal) development.

Hypothesis of the study: There is a positive impact of the play-skills on social-communication (Non verbal and Verbal) development.

In the research single subject design, also known as AB design has been used.

Participants

A sample of 33 children, 26 boys and 7 girls within the age group of 1year 10 months to 4 years at the beginning of therapy. They came to Potentials with a diagnosis of autism, autism spectrum disorder or Pervasive Developmental Disorder. The children belonged to families with middle to high socio economic strata. Participants were recruited through Potentials Therapy Centre.

Inclusion criteria included (1) a neuro-developmental disorder of known etiology, (2) age 30 months at entry, meeting criteria for autistic disorder diagnosed by a child psychiatrist; (3) children taking at least 3 kinds of therapy: social-communication play-skill sessions, traditional speech therapy, special education, and occupational therapy at Potentials or elsewhere; one of which is always play-skill sessions. Exclusion Criteria included (1) children above 6years coming for therapy, (2) children not taking play -skill sessions at Potentials.

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Procedure

The study was conducted in three phases: the pre intervention phase, the intervention phase, and the post intervention phase.

Pre-Intervention: Interaction with the parents and observation of the child was done by therapists from each domain (social-communication play-skills, speech, special education and occupational therapist).

- Intake interview (Semi-structured) with parents to get an idea of the child’s overall developments. Observation of the child in a play context to note his play-skills and his interactions with parent and therapists.
- Completion of various checklists to understand the overall developmental profile and sensory processing by parents and therapists together. (The ones relevant to this paper are summarized here):
 - Communication DEAL Developmental Checklists: which gives a profile - visual comparative level of development across 8 domains (Gross Motor, Fine Motor, Activities of Daily Living, Receptive Language, Expressive Language, Cognitive Skills, Emotional Skills and Social Skills); (A criterion referenced checklist by Prof Pratibha Karanth)
 - Understanding of the child’s communicative-language skills with a code along a internally developed broad coding system (based on review of developmental milestones charts):
 - 1 few random sounds/ babbles.
 - 2 increased ranges of spontaneous sounds/ babbles.
 - 3 one word – elicited (by modelling/ prompting)
 - 4 A spontaneous one word used in context (at least 10 such words)
 - 4 B scripted language used in context
 - 5 spontaneous sentences (self constructed, maybe grammatically incorrect)
 - 6 2-3 cycles of reciprocal language (spontaneous, functional and contextual)

This range excluded echolalia. Communication in any language or mixed use of languages in children from multi-lingual families accepted.

The children have been divided into 5 groups according to the duration of the therapy received by the child after the diagnosis.

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Intervention

Duration and intensity: The children were provided with intensive early intervention, delivered by a multi-disciplinary team, each therapist further specifically trained in our understanding of ASD and ‘Eye to ‘I’ intervention model. The children received 7 – 12 sessions/week. They varied in terms of the length of time they have been accessing these services (Table 1).

Table 1

| Duration of Therapy | No. of Boys | No. of Girls | Total |
|---------------------|-------------|--------------|-------|
| 2 – 2yrs 6mths | 5 | 1 | 6 |
| 1yr 6mths to 2 yrs | 2 | - | 2 |
| 1 – 1 yr 6 mths | 2 | 3 | 5 |
| 6- 1 year | 11 | 3 | 14 |
| 0 to 6 mths | 6 | - | 6 |
| | 26 | 7 | 33 |

Intervention Details: Eye to ‘I’ – an intensive, comprehensive intervention model has been developed, taking into account the developmental literature. Eye to ‘I’ deals with developmental difficulties, with therapies provided in an integrated manner.

Philosophy:

The developmental focus in this model is understood in terms of:

(i) the stimulation and developmental needs for any child in his early years, (ii) additional challenges and hence developmental variations for each child due to ASD/ PDD. (iii) skills essential for children to access various environments appropriate for all children, within the families cultural context.

The intervention idea is nurturing a skill in any one developmental domain and then incorporating it as a base skill for therapy in other domains, so that the area targeted becomes a generalized skill that the child can use any and everywhere and is not learned as a fragmented behavior.

To cater to the above, the early intervention program involves:

- Play-skills which targets social interactions and functional language use
- Speech Therapy – targeting oro-motor issues (like blowing, sucking, jaw and lip functions), articulation etc

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- Occupational Therapy – Targeting sensory processing and integration issues Special education – works towards receptive and expressive vocabulary Group work – in areas of eating together, playing with a peer and educational based group work.
- Parent counseling and feedback
- Integrating the therapies -The therapists at Potentials engaged in Focused Group discussions to discuss each child. This also helped the different therapists working with same child to be one in mind and have a dialogue on a regular basis, hence achieving a holistic level of development for children.

The play-skill and social communication sessions focused on playing with kids, making the experience, activity, or game as exciting as possible to help the kid utilize his life force and produce playful and fun sounds to meaningful language. The social communication skills are assessed within the context of a combination of social and cognitive play continuums with his stereotypies and specific interests in object becoming the starting point for engagement. Language that goes along with the above play; along with narration by the therapist, set the language exposure environment within the session, hence setting pace for socially based communication skills.

Goals for children within the social communication -play-skill sessions are prepared majorly on three domains: (1) Nonverbal Communication; narrowing it down to eye gaze and understanding and use of gestures and body orientation. (2) Verbal communication dealing with fun sounds produced by the kid during play, to words to sentences; from attending to the therapist, to imitation, to spontaneous recall, (3) Play goals like understanding of play partners, attending to and imitation of therapists sounds and actions, joint attention, functional use of play objects etc.

[Note: We are not explaining the other therapies included in the intervention protocol in details as they are more typical of the widely conducted therapies in most interventions.]

The goals of every participant were reviewed and updated on an average after every 12 sessions (per therapy kind) which happened over a period of 1- 2 months. The feedback for the same was shared with the parents.

Progress with Intervention: Since all the children included in the study are still continuing with therapy interventions, we would refrain from calling this level of assessment as ‘Post Intervention’. The following measures of progress have been seen:

- Parental feedback on the child’s progress in communication in other environments (i.e. outside therapy)
- Completion of checklists by parents and therapists together (same as in pre-ass)

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- Communication DEAL Developmental Checklists: this showed both a forward movement to reaching age appropriate skills and filling in the gaps in development and more homogeneity in the skills in the 8 domains assessed.
- Giving another code in accordance with the child’s current communicative-language skills along the internally developed broad coding system.

RESULTS

Initial observations and ensuing understanding of the children by the intervention team helped the therapists work to build on “therapeutic readiness” by incorporating his specific interests, stimulatory behaviors and sensory issues along with any other difficulties such as separation issues. Our focused group discussions in weekly meetings helped us do ground work for the integrated-multidisciplinary work necessary to overcome the barriers and create readiness. This focused on sensory settling in, co-ordinated cognitive, receptive language developments and oro-motor (speech) readiness. Their stereotypes were targeted to make them into functional behaviors.

Overall developmental was seen by comparing the pre-intervention and post intervention Comm DEAL Profiles and the internally developed coding for Communication-Language Skills.

- Communication DEAL Developmental Profiles. Since this 0-5 scoring has not yet been standardized, we are unable to use this for formal evaluation in the study. The general trends however indicate:
 - (i) maximum increments in the motor domains and Activities of Daily Living; (ii) Social, emotional follow (iii) Receptive Language and cognitive skills usually improved more than the expressive language skills.

Heterogeneity in development in different domains still existed, though the variability was lesser.

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- Communicative Language Skills coding:

Table 2: showing sum of speech-language code scores before and after intervention, mean of code scores before and after intervention and percentage difference in the two means.

| Group no. | N | Time Period of therapy | X | Y | Mean X | Mean Y | % increase in the means |
|-----------|----|------------------------|----|----|--------|--------|-------------------------|
| 1 | 6 | 2-2yrs 6mths | 12 | 30 | 2 | 5 | 60% |
| 2 | 2 | 1 yr6mths-2yrs | 4 | 8 | 2 | 4 | 50% |
| 3 | 5 | 1 yr – 1 yr 6mths | 13 | 24 | 2.6 | 4.8 | 45.84% |
| 4 | 14 | 6mths – 1 yr | 30 | 56 | 1.25 | 4 | 68.75% |
| 5 | 6 | 0 - 6mths | 20 | 23 | 3.3 | 3.83 | 13.05% |

Code Scores in order to understand the child’s communicative-language skills.

For code scores refer to (iii) (d) of Pre intervention, Procedure, Method.

N = number of children in each group as per the time period of therapy

X = sum of code scores of n children before intervention

Y= sum of code scores of n children after intervention

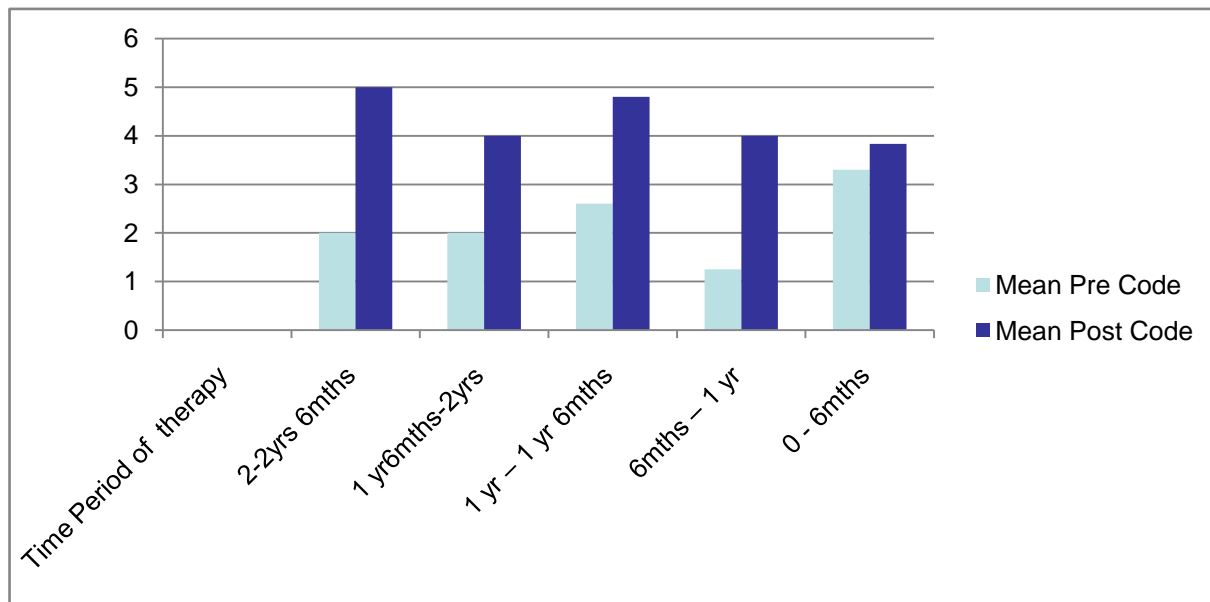
Mean X= Mean of sum of code scores before intervention.

Mean Y= Mean sum of code scores after intervention.

% increase in the means: of code scores from pre to post intervention.

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Graph 1: Bar graph showing the means of code scores from pre intervention (X) to post intervention (Y) in 5 groups.



It can be clearly seen from the Table 2 and the Graph 1 that as the time period of intervention is increasing, there has been a consistent increase in the scores from pre to post intervention. Corsello (2005) says that there are two aspects of intervention that are common to most intervention programs designed for ASD and have empirical support: 1) intensity of the program and 2) the age at which children should begin intervention.

The children in Group 1 (undergoing therapy since 2-2 years 6months) show gradual and consistent increase in their individualized Comm DEAL Profiles. Their skills have been generalized in multiple settings. The minimum increase of 13.05% in the means from pre to post intervention is seen in first 6 months. This is because in the first 6 months, the focus is mainly on awareness of people, social surroundings, and adjusting to proximity, i.e. the base skills for joint attention and reciprocal interaction. This forms basis for further work on understanding and using both nonverbal and verbal communication embedded in the social context. At this stage parents are still in the process to understand how the disorder applies to their child.

The maximum increase in the percentage from pre to post test scores (68.5%) is found in the kids undergoing intervention for 6 months to a year. Now base skills are developing and parents better understand the process and targets of therapy. Hence, intervention extends to functional interaction in everyday living.

As time period of therapy is increasing parents' responsiveness to play as a play partner while interacting with the child is increasing. Some inroads have developed in therapy; child is more responsive to richness in play environment which is broadening every day.

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Table 2 and the Graph 1 clearly show that as the time period of intervention is increasing, there has been a consistent increase in the scores from pre to post intervention..

Analysis of Individual Data within groups: Two out of six children in Group 1 have reached from lower end of the continuum to the highest one. They came to Potentials with few random sounds and babbles. With the course of therapy, these children today are capable of having rounds of conversation. The intervention doesn't stop here; the existing challenges are tackled in weekly therapy sessions. Pragmatic language skills is the next focus for these children. Most of the children taking therapy since 2 years 6 months have moved from unoccupied, solitary play to cooperative play with broadened and enhanced range of play and language (sounds/words) that goes with the play.

Inter Rater Reliability

Inter rater reliability was calculated between two raters at two different levels, using Spearman Rank Order Correlation Coefficient. Rating was taken by two therapists before and after intervention.

One rater was the therapist who has been taking language sessions for the child. The second rater is one who is a mere observer for the child, but has seen the child since day 1 at 'Potentials.' Efforts were made to keep the rating free from affection or comparison bias.

The therapists are in consensus with the level of child on the coding system before intervention, as the correlation between the two raters is strong ($r = +0.94$). Correlation between two raters after intervention is ($+0.87$). While rating for post intervention according to the coding system developed internally, therapist faced difficulty as many aspects of communication seemed missing to them. Some children were in the phase of transition, and were placed on level where they are seen the most frequently. This rating became an opportunity to evaluate the coding system. There is a scope of revision as this coding system portrays only expressive language part of the communication domain, and areas like non verbal aspects or affect are not included in it.

DISCUSSION

Our study was defined to find the role of the “Eye to I” model developed and followed at Potentials Therapy Centre in the Communication and Language skills of children with Autism Spectrum Disorder.. An underlying feature of play development in children with ASD is that people- and object-focused lines of development fail to merge at around 9 months. This merger, which normally provides for the emergence of communicative intent as first described by Sugarman (1982), lays the foundation for increasingly abstract levels of representation and, ultimately, for decontextualized, symbolic thought and action. Our aim is to hold the child's hand and walk with him through the process of interacting with others, to know his/her own inner self closely. The focus is to impart skills to the children, and in turn improve the family's quality of life.

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The early event of diagnosis of ASD sets the individuals on well-worn life pathways leading to a unique way of development for the child. Parents are dealing with changed life perceptions, societal isolation, stress, and these things cumulatively influence the health and development of the focus child impacting their growth over the years. These influences can be well explained by three separate processes that have been proposed to influence children's development—latency, pathways and cumulative processes—operating in complex and interrelated manners (Hertzman, 2000). Thus it becomes even more important to consciously provide the children with early intervention (EI) which leads to forming a meaningful developmental trajectory for children. Another research mentions that brain development in the young child is strongly influenced by the timing and quality of early experience (Huttenlocher, 1988).

A common thread emerging from the Comm DEALL profiles is that the fastest and most visible changes were seen in the motor skills of children (gross and fine motor). The sensory processing difficulties, when combined with language disorders and the inability to interpret environmental feedback, impact the children's ability to effectively motor plan activities, both language and motor based (Daichman, 2002).

The heterogeneity seen in the profiles is typical of children with ASD. From the eight domains, the expressive and receptive language domains were lower as compared to the others. This is merely highlighting the language skills that form a key area of deficit for these children. Barbar and Dissanayake (2011) investigated the developmental profiles of children with Autism Spectrum disorders (ASD) from 12- 24 months. They found that children with ASD performed below age appropriate norms on the Malin's Scale of Early Learning, with exception of fine motor skills at 12 and 18 months of age suggesting that a severe deficit in Receptive Language may be the core cognitive impairment that determines whether a child will develop autism or continue to show developmental or language problems with autism. We see a similar heterogeneity in our study, which was somewhat minimized in post intervention assessment though variability existed. There is value in this profiling, both for defining intervention focus and child's relative areas of strengths and weakness, but also for parental work when over-emphasis is being laid on one or two domains over others, e.g. special education, over other domains which is frequently seen.

Moreover, the links between intervention types, i.e. sensory, motor, cognitive and social communication that we see as essential in therapy, are also reflected in our results. Functional skill development in sensory systems such as auditory and visual directly translated into increments/ readiness for gains in cognitive and receptive language domains; these in turn improving cognitive-play skill and social communication skills. The need for well integrated, multi-disciplinary work is reinforced.

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Wolfberg and Schuler (2008) state that “particularly when dealing with children whose behaviors defy developmental expectations; play is more likely to be viewed as a luxury to be targeted only when more basic deficiencies have been remedied.” The play skills of children with ASD are impaired. But as their child is diagnosed with ASD, the parents focus primarily on their child’s ability to attend a school and the focus is on making the child adaptable to school and classroom settings and consequently, academic achievement.

In our view, a therapy based primarily on Special Education is more directly helpful in cognitive enhancement and performance in class. but is less helpful in making the child ready to cope in varying social scenarios, multidimensional thinking and using language in social communicative contexts..

The coding system formed internally is based on the developmental milestones of language. Speech and language milestones from birth till 5 years were looked into. Different aspects of speech and language – phonology (level 1 & 2 of coding); semantic (level 3); pragmatic (level 4, 5&6).

Looking at children from both a psychological and sociocultural perspective, Vygotsky (1933/1966, 1932/ 1978) attributes a most active role to play as a primary social activity for acquiring symbolic capacities, interpersonal skills, and social knowledge. According to his view, play’s significance extends beyond that of merely reflecting development to that of leading development. To quote Vygotsky (1932/1978):

“In play a child always behaves beyond his average age, above his daily behavior; in play it is as though he were a head taller than himself. As in the focus of the magnifying glass, play contains all developmental tendencies in a condensed form and is itself a major source of development. (p. 102)”

Play is thus seen as a driving force rather than just a mirror of development.

Despite its therapeutic potential, play and particularly peer play has not received the attention it deserves in the education and treatment of children with ASD.

Tracking the course of symbolic and social play in typical childhood development provides a context for understanding play patterns and variations in children with ASD. Typical play development reflects the child’s growing understanding of objects, social awareness of self and others, and emotional attachments to and relationships with adults and peers.

Growth at all levels will impact the child’s advancement in language and play skills. We mentioned earlier that participants are taking at least three kinds of therapies. Enhancement in cognitive skills with special education will help the child learn new concepts as well as enhance receptive and /or expressive vocabulary, speech therapy will help him strengthen his oro motor muscles necessary for speech (articulation, clarity and tonal functions like breath control, volume

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etc; besides range of sounds and sound units). If a child is unable to get therapy in any of the areas, it may become a barrier for further growth in language and play skills. . Ours is a child centered practice that is primarily developmental in orientation, where-by the adult follows the child’s lead, as opposed to directing the child, to stimulate, expand and scaffold play along the lines of a progression that mirrors typical development. The child’s spontaneous initiations in play with objects, self and others are guided by a careful appraisal of the child’s developmental status.

Targeting play skills through early intervention nurtures the child’s innate desire to play. It was observed over the course of therapy that playfulness, experimenting with new play material, ability to play with other children has emerged. The children are moving from non play to higher levels of play.

CONCLUSION

Through this study we can say with conviction that deficits due to SCDs/ASD/PDD, can be softened with play based early intervention and are beneficial in social communication and language development.

The study strengthens the relationship with specific developments emerging first in play and subsequently in language.

LIMITATIONS AND FUTURE IMPLICATIONS

This paper is more of a conceptual paper. The model needs to be put through rigorous empirically validated data testing.

The small sample size has had an impact on the results. This serves as the pilot study for Potentials to present their model with a larger sample and emphasizing the efficacy of their model with strong empirical support in the near future. Moreover, the impact of this model in overall development needs to be studied.

Our data cannot be generalized as it might be skewed due to Demographic factors, socio economic starta, and familial education.

The coding system formed internally was found restricting by the raters, as they had to confine to the 6 levels only. Some kids were in the phase of honing skills to be consistent users of the next level in the coding system. This aspect has majorly influenced our results. Though efforts were made to prevent affection and personal bias in effecting the rating by therapists, this could also be an aspect influencing results. An inter rater reliability between the participant’s lead therapist and their parents could have helped us to have a broader picture of the generalization of child’s skill in daily life.

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One point put forward by the present research is that play is a target for children with ASD. Further research is needed to validate this point with empirical data. With lack of a suitable tool to measure progress in play skills for our population, the very backbone of our model could only be ascertained by observations, parental feedbacks and the effects of play on Social and Communication skills, including functional, social language.

In future research it would be pertinent to carry out larger scale replications. Further research might also address questions pertaining to the extent to which speech, language and overall communication skills can be advanced through guided participation in peer play.

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