**Relationship between language regression, family dynamics and screen exposure time in children with Autism Spectrum Disorders**

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**Introduction**

Autistic Spectrum Disorder (ASD) is the disorder characterized by impairments in social interaction and communication, along with restricted, repetitive, and stereotyped patterns of behavior ([American Psychiatric Association, 2000](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1350798/#R1)). Social communication deficits include impairments in aspects of joint attention and social reciprocity, as well as challenges in the use of verbal and nonverbal communicative behaviors for social interaction. Language regression in a normally developing children is seen to be associated with regression of sociability and of desire to communicate non verbally, impairment in imaginative play along with other deficits such as attention, sleep etc. (American Psychiatric Association, 1994). A [recent meta-analysis of 28 studies](http://link.springer.com/article/10.1007/s10803-012-1621-x) found the average age of regression to be a bit older than 21 months; studies consistently report a range of 15 to 30 months. A number of studies have reported that the age for language regression ranges from the second year of life to 81months.

Speech and language development in a child is highly affected by family dynamics and relationship between parents and children. Bruner (1975) and Vygotsky (1983), posited that learning occurs in a socio-cultural context in which adults and primary caregivers support or uplifts young children to higher levels of thinking and acting. According to this view, children have an advantage in the learning process if they experience sensitive, cognitively stimulating home environments early in developmental age

A deluge of studies have indicated that the quality of parent-child interactions plays a remarkable role in children’s early language and learning. For example, one of the strongest predictors of children’s early language and learning is style of language used and amount of communication between parents and children. Adult speech that is intonated and rich in information about objects and events in the environment are more beneficial to the child (Monda, 2002). More advanced receptive and productive language, phonological awareness and story comprehension skills are seen in children whose parents respond to their young children’s verbal and exploratory initiatives through verbal descriptions and questions (Monda, 2001).

Negative health outcomes such as decreased cognitive ability, impaired language development, mood, and autistic-like behavior including hyperactivity, short attention span, and irritability are often seen in children with high screen time exposure (Bedrosian, 2017). In recent times, children have started spending more time with electronic screen media compare to children in the earlier days when they mostly used to engage in physical and social activities. It has been seen that parents actively persuade children to use electronic screen media as a companion to entertain and to keep them occupied while they are busy with their chores, and this practice has resulted in very early screen exposure. The most astonishing fact is that parents have proudly reported about their children being able to enjoy electronic media in regular basis even before 2 years. Media screen exposure is that can contribute to children's language development, however, Language learning at an early age depends mostly on the influence of the context of linguistic directly from social interactions rather than the electronic screen media which the parents and caregivers think to be a source of information and entertainment for children . (Hermawati, 2018).

**Need for the study**

Early detection of autism is important because early intervention can have a significant impact on the long term prognosis of many children with autism. Unfortunately autism is not typically diagnosed in children until around 3-4 years of age (Siegel, Pliner, Eschler & Elliot, 1988). Therefore, many children do not receive intervention as early as would be optimal. Family dynamics have witnessed a major change in the recent years and this has affected the normal development of speech and language in a developing child. Parents and caregivers often indulge the child in screen activities and the child experiences lack of exposure to normal human conversation.

The affect of parents and children on each others life since the birth of the child is the most remarkable change of one’s life. Therefore transactional nature of children’s early language and learning experiences is very important and should be acknowledged. Although there are tools available to evaluate and diagnose ASD, there are very limited tools available to explore parent reported regression and underlying factors in depth. Regression was earlier reported only in Rett’s Syndrome and Childhood Disintegrative Disorder. But of late, regression was reported across spectrum of Autism Disorders. As per the information available there is no such tool to assess the family dynamics, screen exposure and their affect on the speech and language development of the child. Hence, there is a need to screen the children on regression screening tool which should essentially include the underlying causative factors which may identify the children with ASD as early as possible.

**Aim of the study**

The primary aim of the study is to describe how family dynamics and screen exposure affects the language development and often results in language regression of children who are diagnosed with ASD.

REVIEW OF LITERATURE

Attention, language, emotion regulation and socialization which are epicenters to the diagnosis of neurodevelopmental disorders, such as ADHD and learning disorders and subsequent symptoms of Autism Spectrum Disorders, have deteriorated due to Intensive Early Screen Exposure (IESE) in vulnerable younger children (Harley, 2019).

A cohort study of 2152 children controlled for perinatal and demographic variables done using the total revised Modified Checklist for Autism in Toddlers score, found that television and/or video exposure and less caregiver-child interactive play at 12 months of age were significantly associated with greater ASD-like symptoms ( Heffler, 2020).

Hermawati (2018) in his study found that more than a half of children (66.6%) had no parents-child interaction during the exposure, speech delayed and short attention had been reported in all cases, and hyperactivity was found in 66.6% children. Language delay and short attention span was found in children with more than 3 hours of screen exposure per day, as compared to children who had less than 3 hours of exposure per day. A positive impact on language development especially word learning was seen in cases of strong, parent-child interaction while increased screen exposure and reduced parent- child interaction resulted in negative impact on children’s health and development (Tanimura, 2007).

A study conducted by Kumar, karmakar and Mohanan (2014) found there exists a significant regression in children with ASD. They found that the mean regression age was 20.19 months (SD-5.2). A regression of language skills occurred at 19.16 months followed by non language skills at 20.5 months was witnessed in the regression profile of the children with ASD (Kumar, 2014)

**Methods**

The proposed research work is an exploratory study.

Group A consisted of 30 parents of children diagnosed as ASD.

Group B consisted of 30 parents of typically developing children.

Inclusion criteria for group A-

1. Pre diagnosed as ASD by a clinical psychologist\rehabilitation psychologist.
2. History of regression.
3. Age range 3-8years.
4. No associated problem.

Inclusion criteria for group B-

1. Age range 3 to 8 years.
2. No speech and language problem.
3. No sensory problem.

Tool used

The tool developed by Kumar, Karmakar and Mohanan(2011) will be used to screen the age of regression. This tool is developed based on Regression Supplement Form given by Goldberg et al., (2003). A new questionnaire will be developed to screen for the impact of family dynamics and screen exposure time on speech and language development .

Data Collection

Data of the children with ASD were collected at the institute. Data of typically developing children were collected from play schools and schools located in Kolkata. Written consent was obtained from each parent prior to the interview. Structured interviews were conducted and purpose of the study was explained to the parents. Demographic data like date of birth of the child, educational qualification of parents, socioeconomic status were obtained. During interview, the parents were explained about the content of the questionnaire and asked to report whether the mentioned skills were lost or not and if yes, then at what age. It took about 20 to 25 minutes to conduct the interview. The questionnaires would be provided to the participants to report about the skills. The participants were given seven days to recall and report about each skill retrospectively.

 Appropriate statistical analysis would be done.

IMPLICATION

With the recent advancement of time there has been remarkable change in the family dynamics resulting in change of pattern in the interaction amongst children with their parents and caregivers. Also these days children have higher screen exposure which has limited their scope for acquiring language. Development of this tool will be helpful as this would allow us to assess the regression of language in children along with

family dynamic and screen exposure time resulting in proper intervention of the child.