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IDENTIFICATION OF RISK FACTORS OF SPEECH AND LANGUAGE DELAY IN CHILDREN UNDER 10 YEARS OF AGE ALONG WITH THE INFLUENCE OF SCREENING TIME

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ABSTRACT

A leading factor of a child's overall growth is communication and linguistic development. Many residences now have a television, a cell phone, a computer, and tablets. These electronic gadgets have both beneficial and harmful effects on children. Children are now using electronic gadgets for significantly longer periods, which results in even less interaction between parents and their children and delays in language and speech growth. The purpose of the current study was to investigate the contributing variables to speech and language delays in children under the age of 10 as well as the impact of screening time.

The study was done An observational study was conducted in the DEIC (District Early Intervention Centre) of the civil hospital, Osmanabad from September 2022 to December 2022, on a sample of 205 under 10 years of children of age by interviewing parents, using a semi-structured questionnaire from the Rural Area of Osmanabad. We concluded that children who consume more than six hours in front of a screen have a 56.09% probability of developing

speech and language delays. Children who spend more than six hours a day in front of a screen may experience delays in their speech and language. In children under the age of 10, the influence of cumulative risk factors, rather than individual ones, may have a greater impact on delayed speech development.

Keywords: Speech and Language delay; Risk Factors; Screening hours; Under10 years; Electronic Device

INTRODUCTION

Communion is the essence of human life which simply involves giving and taking information and idea missive through various manners. According to Henry Sweet, language is the expression of ideas utilizing speech sounds combined into words. Words were combined and combined answering those ideas into thoughts **[1]**. Language development is captious in the early six years of a child's progress. Like John Lockek says, “At birth, the mind is tabula rasa blank slate that we feel with ideas as we experience the world through five Senses” (1689). Language development is thought to proceed to learn children acquire the forms, meanings, and uses of the word. They will learn and artifice different abilities. The child has a verbal or linguistic delay if they are unable to utilize words or other ways of communication at the expected ages or a slower rate than normal **[2]**. The spectrum of such problems may include phonation, dysfluency, articulation disorder apraxia of speech, and unusual voice quality **[3]**. There are two types of speech and language delay Receptive language disorder happens when the child has trouble and is inconvenienced in understanding others. A child with an expressive disorder has trouble communicating in complicated phrases, memorizing words, or expressing ideas or emotions **[4]**. Communication disorders not only affect the way of communicating with others, but they result in confined conditions for a person by affecting social and emotional well-being, cognition, and behavior and to be at higher risk of behavioral and social difficulty **[4, 5]**.

Various factors influence the development of speech or language including prematurity low birth weight, education, electronic device mainly screening time, lack of parental communication with the child, family type, environmental factors lack of support for learning in the home, mother and father's age of conception, poor nutrition status of mother and child, **[2-4]**. Children below 6 years or between 6 to 10 years have the crucial ability to build their development as well as the implementation of various skills. It is a critical stage of child development so early screening and identification of such issues are essential.

Child language delay can also be a learning problem. That is not determined until the school year **[1, 5]**.

METHOD AND MATERIAL

From September 2022 to December 2022, 205 children with language and verbal deficits participated in an observational study for which all the parents provided written informed permission. The children were seen at the OPD (Out Patient Department) of the DEIC, Civil Hospital Osmanabad. The inclusion criteria for selecting the sample were that children with delays in speech development under 10 years of age and children under 10 years of age having delayed-related Neuro-developmental disability were excluded from the study.

All children were evaluated for delays in communication using the screening tool – REELS (Receptive Expressive Emergent Language Scale) and LPT (Linguistic Profile Test). All children were also screened for attention deficit hyperactivity disorder (ADHD) using the diagnostic and statistical manual of mental disorder 5th Edition **[6]**. for hyperactivity and inattention and all children were screened for ROP (Retinopathy of prematurity) and BERA (Brainstem Evoked Response Audiometry). Inclusion criteria are Children under the age of ten, Subjects with Speech delay confirmed by a diagnosis, Children with non-neurological complications such as speech and language delays, and behavioral issues, and Children with a seizure history. Exclusion criteria are Children over the age of 10, Children who have physiotherapy-related issues, such as Clubfoot, Children with cleft lip and palate, and Children with hearing loss and a squint problem.

A semi-structured questionnaire was used to recognize risk factors of children under 10 years of age with delays in communication and speaking. This question was developed by the author, particularly for this research based on a previous study concerning risk factors for speech and language delay.

Risk factor questionnaire

Sr. No.	Questionnaire
1	Age of child
2	Gender
3	Information provider
4	Area of living
5	Screening hours
6	Gestational screening time
7	Family type
8	Parental communication
9	Parental education

RESULT AND DISCUSSION

Table 1: Demographic observations

Observation	No. Of Patients (N)	Percentage (%)
a. Gender distribution of children		
Male	160	77.5%
Female	45	22.5%
b. Age distribution of children		
0-2 years	25	12.19%
2-4 years	30	14.65%
4-6 years	50	24.39%
6-8 years	45	21.95%
8-10 years	55	26.82%
c. Distribution of the living area, of children		
Rural	170	82.93%
Urban	35	17.07%
d. Type of Family of the child		
Nuclear	190	92.68%
Joint	15	7.32%
e. Parental education		
Illiterate	122	59.52%
Literate	83	40.48%

N=205, Data presented in several patients and respective percentages

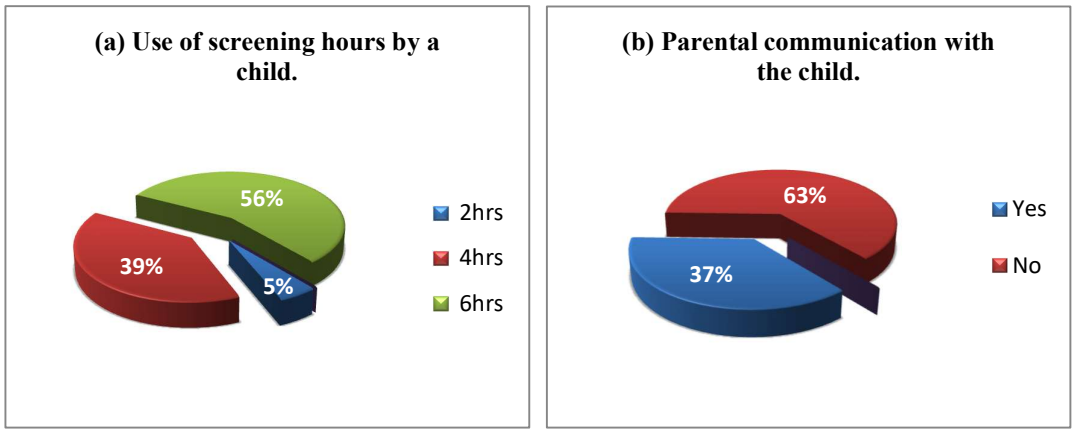

Figure 1: Pie chart of (a) Use of screening hours by the child and (b) Parental communication with the child

In this study, initially, we analyze the pre-existing risk factors remarkably associate with primary delay in both communication and speech. in children under 10 years of age and find out most of the common factors along with these. The most common variables recognize risk factors were male gender, excessive screen hours and low birth weight, and child attention problems. There was an extensive study of communication and language available in Western literature but there is a lack of similar data in India. However, in our study, 75% of information providers were mothers and extended delays in uttering words and phrases occur at 5-10 years of age. A recent study on risk factors for delays in communication in a child has found the predominant age group was diagnosed with 2-5 years of age **[2]** and the further study found that the average age of a child having a delay was 8 years. In the study, we performed in India (Osmanabad,

Maharashtra) also, be seen many children with speech delays were 8-10 years of age. Mainly it was associated with gender was significant and the male was a risk factor for the delay **[3, 4]**. According to our study, most of the children were male (77.5%) which is almost like done by the author which shows the delay is 3-4 times more common in boys children than girls' children **[1, 4]**. The factors of being, common risk factors were positive history of unclear speech, mind-articulation, and stuttering had a nearly more probability to have a primary delay in expressing one's thoughts and feelings according to different researchers **[1, 2, 6, 7]**. Children who use screens for more than 6 hours have a (56.09%) chance of having a delay. Many studies have reported a positive association between child age and mobile screen media use compared with younger children, older children were more likely to use Smartphones, Tablets, or any electronic devices **[6, 8]**. According to our observation, we specified a particular age group of children that is 6-10 years of age (56.09%) use excessive screening time that is more than 6 hours, which badly affects the speech and language delay. "Carson and Kuzik concluded that, for every one-month increase in age, the use of any media increases by 9.3 min per day (95% confidence interval 2.8-15.8)" **[6, 9, 10]**. Along with that according to our examination, We discover a substantial relationship between the area of a living family. Mainly the families which survive in rural areas (82.93%) have a risk factor for speech delay. Due to a lack of parental education out of which are mostly illiterate (59.52%), they cannot provide adequate guidance and awareness related to the utilization of screening time, which play an important role in child social development. We observed, that with decreasing hours of mothers' care, communication opportunities between mothers and young children naturally decline and children have relatively more possibility of being exposed to use media and other devices that no parental communication affects the child's speech delay (63.42%). Analyzing all these factors the family type that the child lives in the joint family or the nuclear family plays also an important role in children's advancement and growth due to parental occupation they spend most of the time duration out of home and children get more chances to susceptible for the use of excessive screening hour. The result of the present study revealed that parental awareness should be upraised for their child's emotional, physical, and social development.

CONCLUSION

In the current study, we found a lack of awareness among parents about their child's age-appropriate development along with

behavior problems, consequently, we choose this study topic to enhance awareness about screening their child-development. delay in speech perception development is a significant scale of overall child development. Assessment of delay in auditory processing under 10 years children selected in a rural area of Osmanabad district. Along with that, we Examine the utilization of excessive screening time Specifically more than 6 hours connected with a delay in early intervention with behavior problems. The prolonged duration of electronic media is linked with delays inability to speak and write children. Although it increases mental and intellectual abilities, electronic media also gives access to games and social media, which can cause psychosocial impairments. As a consequence of poor parental communication with a child, they should spend more time on electronic devices which badly affects the child's developmental condition. The present study also suggests that the progression of utterance in under 10 years children should not be attributed to a single factor rather multi-factorial approach was required to estimate the accumulation of risk for speech deficits. As a result of excessive time spent on screen or with an electronic device, the child won't be socialize as compared to the normal child which ultimately affects the child's social development along with speech delay. This study assists to increase awareness and consciousness among the parents about their child and improves children's social as well as emotional development.

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