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Speech and language delay in children attending outpatient – A Clinical Study

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Abstract

Background: Speech and language are the most widely used form of communication between individuals. Every child should be assessed for the speech and language delay so that delay at early stage can be identified and early intervention and appropriate treatment can be given to child.

Objective: To estimate the prevalence of speech and language delay among 0-5 years children attending outpatient department of tertiary care Centre.

Method: This is Cross sectional observational study included 200 children of 0-5 years age attending OPD. Language Evaluation Scale Trivandrum (LEST) was applied on children and were assessed for speech & language delay. Children with speech and language delay were further assessed for hearing disability by BERA. Children with normal BERA report were further assessed for developmental delay in other domains by using DASII Scale.

Results: Of the 200 children 1.4 % had delay, 1.8 % had suspect delay,4.3% had questionable delay. Children came in OPD with common complaints like cough & cold, diarrhea, fever, vomiting etc. but not any caregiver complaint about speech and language delay. In this study there was significant association between speech and language delay and place of residence (p = 0.003). There was also significant association in between speech and Language delay and birth weight (p = 0. 000 048). There was no association found between the other demographic variables.

Conclusion: by using simple tool LEST scale in children we can easily screen language and speech delay in early age, can intervene in early stage and can prevent further consequences.

Keyword: Speech, LEST, OPD.

Introduction

Speech and language are the most widely used form of communication between individuals. For a child speech is a way to transfer his emotions to others, mean to seek attention and to develop social relations with other individuals. Speech & Language milestones are usually achieved in a predictable age. Speech and language development delay in children is one of the most common neurodevelopmental difficulties although it is often missed by caregivers, they are very concerned even about the minor ailments of their child but are unaware about the fact that their child is having speech and language delay. Speech refers to the mechanism of oral communication or the motor act of communicating by articulating verbal expressions.

Language encompasses understanding, processing and production of communication. Several types of speech and language delay and disorders have been described, although terms used to describe them vary. Every child should be assessed for the speech and language delay so that delay at a early stage can be identified and early intervention and appropriate treatment can be given to child. These children are also at increased risk of emotional and behavioral problems. In these children if early intervention given may lead to improved social behaviour and academic performance.

Method

Present study is a cross sectional observational study conducted between December 2019 to September 2021 after getting approval from the institute approval committee.

Sample size

Prevalence =8%

Absolute precision =5%

Sample size=$4pq/l^2$ =4×6×94 /3^2=250 =250

Inclusion Criteria

children 0-5 years of age attending OPD.

Exclusion Criteria

- Children diagnosed with global developmental delay
- Children having speech and language delay secondary to CNS diseases, congenital malformations.
- Children with known hearing impairment Caregivers of children between age group 0-5 years attending OPD informed about the study and inclusion criteria. Language Evaluation Scale Trivandrum (LEST) was applied on children after taking informed consent. LEST scale for 0-5 years age group has 30 items & were used for speech and language delay evaluation. We assessed the development of the child by drawing a vertical line through the chart for their chronological age. If the child is able to complete items that are on the left of the line, then there is no delay for that item. If an item lies to the left of the line and the child is unable to complete the item then a delay is assumed. After applying LEST scale children has been classified into 4 categories:-
- No delay(all items done)
- Questionable delay(one item not done)
- Suspect(two items not done)
- Delay(three or more items not done)

Children who fall into questionable, suspect or delay also assessed for hearing defect to rule out any hearing disability as a cause of speech and language delay. For hearing assessment BERA was done on children having speech and language delay by Audiologist

Statistical analysis

The categorical data is summarised as frequencies and percentages. Continuous data is also categorized. Categorical data is analysed using Fisher's Exact test. p values < 0.05 are accepted as indicative of statistical significance.

Result

200 Children assessed for language & speech delay by applying LEST scale. On applying LEST scale in this study we found 15 children out of 200 children in study had delay in speech & language in which 1.4% of children had delay, 1.8% had suspect delay & 4.3 % had questionable delay (total prevalence 7.5%). BERA assessment was done for hearing assessment in these 21 children to rule out hearing disability and found that no children had hearing disability. These 21 children further evaluated for developmental delay in other domain by applying DASII scale on which 7(2.5%) children had delay.

Table 1: Developmental assessment of the study participants

Developmental assessment method	Number	Frequency
Language Evaluation Scale Trivandrum (LEST)scoring		
Normal	261	92.6
Questionable delay	12	4.3
Suspect delay	5	1.8
Delayed development	4	1.4
BERA Hearing Assessment		
Normal	21	7.4
Not done	261	92.6
Neurological Developmental Delay (DASII)		
Delay	15	2.5
No delay	35	4.6
Not done	150	94.9
Total	200	100

There was no significant association between the speech and language development of the child and age of the child however prevalence of delay was more in children less than 24 months (p value 0.489). There was slightly more prevalence of delay in males but there was no significant association (p value 0.407).

There was no association between speech and language delay and socioeconomic status (p value 0.993). There was significant association between residing area and language delay (p=0.003), more prevalence was seen in children residing in urban area. There was no significant association between delay and number of siblings (p value 0.551). There was no significant association between delay and educational qualification of mother and father (p value 0.687 and 0.255 respectively). There was no significant association between delay and working status of mother, however more prevalence seen in children with homemaker mother (p value 0.086). There was no significant association between delay and family size (p value 0.057).

There was no significant association between delay and gestational age of children (p value0.173). There was no significant association between delay and birth order of children (p value 0.852), There was significant association between delay and birth weight (p = 0.0000 48), prevalence was more in children less than 2500 grams birth weight. There was no significant association between delay and mode of delivery (p value 0.154) and history of hospitalization at birth (p value 0.094). There was no significant association between delay and maternal age at the time of delivery (p value 0.900).

Discussion

Out of 200 children screened using LEST scale 92.6% had normal language development, 4.3% had question able delay, 1.8% had suspect delay and 1.4% had total delay (prevalence of speech and language delay 7.5%). There was no association of age, sex, family size, socioeconomic status, number of siblings, educational qualification of parents, working status of mother, gestational age at birth, birth order, mode of delivery,

history of hospitalization at birth, maternal age at the time of delivery, family history of language and speech delay, screen time exposure with speech and language delay in this study.

Conclusion

Present study was carried out on 200 children visiting OPD. All children came with different systemic illnesses but not any caregiver complained about the speech or language delay. On all these 200 children screening test for speech and language delay was performed using LEST scale. There was association of place of residence with speech and language delay (p=0.003). In all the participants with speech and language delay no one was found with hearing disability when assessed by BERA. In total 21 study participants with speech and language delay between the age group 0-5 years 6 participants had developmental delay when assesses with DASII scale.

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