Frequency of Common Risk Factors in Children with Speech Delay

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ABSTRACT:

Background: Speech and language delay is uncommon developmental disorder. Speech delay if persists may lead to problem and adverse effects on literacy, education and psychological development.
Objective: The purpose of present study id to find out the most common risk factors of speech delay in children of 2 to 6 years of age.
Methodology: Cross sectional survey was used to determine common risk factors of speech delay using convenient sampling technique. In this study the questionnaire was filled by the examiner in the interview; collected data from the parents and children sample of 55 children (45 male, 10 females) was taken indirect interview to parents or caregivers in a formal sitting; history was taken on history form being used in outpatient department. After taking consent development using Portage Guide for Early Education (PGEE) portion for language was applied on child, questions were asked from parents and performed by the child. The collected data was analyzed by using SPSS 17.
Results: Results showed that the common risk factors for speech delay are anomaly, socioeconomic status of parents and living status of parents.
Keywords: Socioeconomic Status, Organicity, Speech Delay, Prediatrics (JRCRS 2014; 2 (1): 27-31

INTRODUCTION:

Speech and language delay is uncommon developmental disorder. Speech delay if persists may lead to problem and adverse effects on literacy, education and psychological development. For structured management approach, children are referred to otolaryngologist for diagnosis and that enables for therapy is enough but for secondary language disorders referral to other professionals might be needed[1].

Often of these research work have presented individual expressions to refer children with premature language delay. These different conditions seems to be quite analogous yet are used to refer to group of children who were taken on using somewhat diverse enclosure criteria such as exact expressive language delay, specific expressive language impairment, delayed expressive language, early expressive delay, slow expressive language acquisition (development), late mounting language, developmental expressive language disorder, delayed commencement of lexical skills and deferred onset of expressive oral expression. “Late talker” is the term that is used by almost all these researchers along with their own definitions like in Paul’s work; some have used this restrictedly. Although these terms are frequently used but still it is significant to remain in intellect that same abbreviation may stand for diverse terms. For example: “SELD: is used for “Specific Expressive Language Delay” and “Slow Expressive Language Delay”[2]. Without any comorbidity and apparent reason or secondary issue, speech

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delay could be primary; some other cause might be coupled with reason, condition and syndrome. Secondary language disorder have a wide range of reasons which mostly include: hearing impairment, Down's syndrome and many more[1]. More disorders include expressive language disorder, social scarcity, autism, elective mutism, receptive aphasia and cerebral palsy. Other than the maturational delay and bilingualism, speech delay might have secondary significance. During the session of history taking and physical examination, general practitioner can make diagnosis on the grounds of these observations, knowledge and experience. Importance of timely detection and treatment cannot be denied for the betterment of the emotional, social and cognitive deficits of disability[3]. In most of the people left hemisphere is predominantly conscientious for language processing in most of the people. Some people says that poor lateralization of the brain is responsible for the language disorders. Although little evidence is present in this domain but weak cerebral palsy is often associated with genetic origin. The concept of the nature of cerebral asymmetry and its vast effects and deviation of lateralization over developmental period may lend a hand us to the idea about the relation between the atypical language lateralization and developmental disorders[4].

Most of the time the acquisition of the receptive vocabulary, although not all, late talkers are most of the time parallel to that of normally functioning children, in comparison to significantly slower rates of development of expressive vocabulary. These children utter only a few words at a time parallel to their peers who say hundreds of words and combine them into phrases. Normally developing children normally have approximately 200 words of in their expressive lexicon by the age of 2 years where as expressive vocabulary of late talkers is often in range of 20 words. Therefore , it seen that overall language skills profile of late talkers does not bear a resemblance to that of normally developing child and it is generally believed to be language delay rather than language disorders[3].

Using the taxonomy of the language functions presented by Halliday (1977) and the interaction between an infant and his environment in context of social interactionist theory, Halliday's work described that the language children use have functions which show what children do with language. The functions proposed by the Halliday thought to be present at child's output system; of course they do not appear fully developed and functioning at the time of birth. Within the child himself, environment or perhaps both should have developmental roots of functions and course of language which is used to convey the ideas, desires and message[5]. More exclusively, growing risk factors from deprived family backgrounds are recognized such as poor health conditions, improper parenting, unsuitable diet, which can affect significantly the nervous system of children during early childhood. All these risk factors and problem can cause delay in early physical growth in terms of both fine and gross motor skills development and more seriously can be associated with delays in language and cognitive development. Furthermore, these negative and devastating outcomes in their growth have both direct and indirect impacts on social development negatively such as behavioral and emotional problems[6].

Up till now exact cause of speech delay is not clear, purpose of this study is to estimate the frequency of speech with respect to gender and to see the effect of demographic factors that influence children the most and lead to speech delay.

MATERIAL AND METHODS:

A cross sectional study was used to determine the common risk factor of speech delay in outpatient department of Child and Family Psychiatry, Mayo Hospital, Lahore. A data sheet was developed to record information; a pilot study was conducted on 10 patients for verification of the self developed Proforma.

Sample of 55 children was taken in direct interview to parents or caregivers in a formal setting;

history was taken on history from being used in outpatient department. After taking consent development using Portage Guide for Early Education (PGEE) portion for language was applied on child, questions were asked from parents and performed by the child. Following proper scoring child's age in language acquisition was calculated. All children of age 2 to 8 years with speech delay were included and assessed for language development using Portage Guide for Early Education (PGEE). Cognitive portion of PGEE is used in study to identify the exact chronological age and lack in it. It assesses the child mental age relative to its chronological age. Age difference is calculated to assess the exact delay in cognitive development. The portion is comprised of six portions according to each year (0-1 year, 1-2 year, 2-3 year, 3 to 4 year, 4to 5 year and 5 to 6 year) there are questions in each portion. 12, 17, 27, 13, 14, and 12 questions in portion 1, 2,3,4,5 and 6 respectively. If ten consecutive No's are obtained then test is stopped there and age for previous years is calculated. Questions are according to the activities that must be performed in that age. Questions are asked from mother or caregiver or can be performed from child. Answers are given in Yes or No, numbers of Yes answers are calculated and by applying the given formula, the age of that year is calculated. No. of correct responses × 12/ No of total questions = age of respective year after calculating the age for all respective years, all values are summed up. That's how the portage age is calculated. PGEE calculated age is subtracted from chronological age and delay in language is calculated.

PGEE age – chronological age = lack in language

Data was analyzed by using SPSS software (version 16). The choice of statistical test depended upon normality quantitative variables were presented in the form of Mean and S.D. and sample size following study objective. In which quantitative variables were presented in the form of Mean and S.D.

RESULTS:

Results of the present study showed common risk

Significant factors related to speech delay are residential status and socioeconomic status.

Distribution of study sample is shown in Table 1.

Table 1: Distribution of Gender (n=55)

Speech Delay	**Gender n= 55**	
	Male	**Female**
	45 (82%)	10 (18%)
Mean Age	4.74	3.97

Speech delay was more prevalent in male than female. Mean age in male is 4.74 and in female 3.97

Table 2: Common Risk Factors of Speech Delay

Variables	**Range of Variables**	**No. of Patients, %**
Socioeconomic Status	Below 5000	8 (14.5)
OMME (oral motor	Above 5000 and below 10000	23 (42%)

mechanism examination)	Above 10000	24 (43%)
	Intact	48 (87%)
	Restricted	7 (13%)

Significant factors related to speech delay are residential status and socioeconomic status.

DISCUSSION:

Study by McKinnon and McLeod was about speech disorders, they took sample of 10425 students. According to their results the prevalence speech sound disorders among students was 1.06%. High prevalence of speech delay was found in male more than female 7. Our study also showed high prevalence of speech delay in male patients. It is mostly documented fact that social, cultural and family environment, the relationship among parents, parent's social and financial circumstances and caring attitude of parents can influence the early childhood experiences are easily and directly. Hence normal development of young children is affected seriously by any problem. 13Using MacArthur Communicative Development Inventory (MCDI) research showed less than 1% of the variance in vocabulary accessed via maternal report, middle class sample showed, 80% of the sample from low income children scored below the 50th percentile on this same instrument 9. This study shows that most of the patients belong to comparatively good socioeconomic condition and live in urban areas. It might be possible that their parents are working and less interacts with them. Pedestrian skills explored in a research in Iran told that these skills are complex and prejudiced by the demographic factors such as age, gender, socioeconomic status and cognitive development 10. It is evident from research that organized family environment gives less finest environment for language development. Because of many ambient distractions such as many noises in the background environment and many people going in and out of the house: child might be able to process the language that is directed to him. 11 Results of many longitudinal studies compared low-socioeconomic status group maternal interaction, child spirit, infant language skills and number of books discriminated children with higher language score at 4 years of age. Age of 4 years, higher infants, more books and greater likelihood of secure infant attachment are the criteria that distinguish children with higher score entering kindergarten. 12 Speech therapy and special education are both seem to be beneficial for children with SLI and cognitive delay respectively. 13 whatever is the cause our attention is directed to specifically to the speech and language development difficulties 14. As compared to their matched controls, predominantly lower mean language score is seen in intermediate and adolescent epilepsy group. Elder relative to younger epilepsy groups had more language disabilities and a broad range of linguistic impairment. Linguistic deficits in young children group are seen mostly associated with long duration of illness, childhood absence, psychiatry diagnosis and socioeconomic status. Majority of children in this study is with organic problems[15].

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