

Analysis of Stutterers Characteristics in Association with Age of Onset and Family History of Stuttering

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ABSTRACT

Introduction

Stuttering is a common occurrence in children which is also known as stammering, dysfluency or clutching of words. Aims of present study was to study association of age of onset and family history of stuttering with stutterers characteristics.

Materials and Methods

Total 136 stutterers were included in the study. All stutterers were subjected to complete ear nose and throat examination. All stutterers were evaluated by speech language therapist for diagnosis of speech disorder.

Results

Out of 136 stutterers 124 (91%) were male while 12 (9%) were female ranging from 6years to 56years, 15(11%) had age of onset below 3 years, 98 (72%) had 3years to 6years while 23 (17%) had onset after age of 6 years, 44 (36.4%) male and 1 (8.3%) female patient had first degree family history of stuttering, 15 (11%) had mild stuttering, 98 (72%) had moderate stuttering while 23 (17%) had severe stuttering, 102 (75%) had secondary stuttering characteristics including 94 (75.8%) male and 8 (67%) female stutterers.

Conclusion

Present study concluded that there is definite association of between age of onset and severity of stuttering, between duration of stuttering and secondary characteristics and between severity and number of secondary characteristics of stuttering. We couldn't find significant association between positive family history of stuttering among first degree relatives and age of onset, severity and secondary characteristics of stuttering.

Keywords

Stammering; Primary Characteristics; Secondary Characteristics; First Degree Relative.

Speech is a medium for humans' expression of language that utilises auditory input and vocal output. Speech and language have developmental and neurologic relationship so a language disorder may be accompanied by speech problems. Language disorders can be classified as primary or secondary based on contributory features while developmental or acquired based on time of onset.¹ Stuttering is significant problems with normal fluency and flow of speech, which is also called as stammering or childhood-onset fluency disorder, that occurs when forward flow of speech is interrupted by motorically disrupted sound, syllable or words.² Stuttering is a relatively common disorder in childhood and incidence can reach up to 8.5% by 3 years of age.³

The dysfluency types repetition, prolongation, interjection, silent pause, broken words, incomplete

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phrases and revisions are most typically associated with stuttering disorder.⁴ Stutter often develops secondary characteristics of stammering in due course of disease. These secondary behaviours are learned response to stuttering are common but not all stutter exhibit them. Avoidance, motor behaviors, physiologic responses and expectancy are accessory behaviours. Stuttering tends to run in families and stutter with positive family history usually start dysfluency earlier.⁵ The present study was conducted for detailed analysis of stutters to find out association between age of onset of stuttering, duration of stuttering, family history, severity along with primary and secondary characteristics of stuttering.

Materials and Methods

This study was conducted as descriptive cross-sectional qualitative study design in Otorhinolaryngology department of a tertiary teaching hospital after obtaining ethical clearance from institutional ethical committee in one calendar year. All stutterers were underwent complete ear nose throat examination by otorhinolaryngologist for any structural abnormality. All stutters were diagnosed by qualified speech language therapist based on dysfluency index, family history, primary characteristics like repetition, prolongation, silent block and secondary accessory behaviours like avoidance, hesitation and other associated motor behaviours. All suspected secondary language disorder patients such as stutter with hearing impairment, mentally retarded and congenital anomaly were excluded from study. Only a stutter more than 6 years and less than 60 years were included in this study as one study showed that individual over 60 years have difference in fluency profile.⁶ Total 136 stutters were enrolled in the study after obtaining age appropriate written informed consent either from parents or stutters.

All data collected using case recording pro forma was entered in MS excel 2010 data analysis was performed using SPSS software version 22. Data was analysed using Chi-square test and Fisher exact test. If $p < 0.05$, then data was considered significant.

Results

In present study out of 136 patients 124 (91%) were male while 12 (9%) were female in age range of 6 years to 56 years. We divided all patient in to three age groups. There were 39 (28.7%) patient were 6 years to 12 years age group, 36 (26.5%) 12 years to 18 years age group and 61 (44.8%) were more than 18 years age group. We also distributed all patients in three groups as per age of onset of stuttering. Out of 136 stutterers, 15 (11%) had age of onset below 3 years, 98 (72%) had 3years to 6years while 23 (17%) had onset after age of 6 years. Total 44 (36.4%) male and 1 (8.3%) female patient had first degree family history of stuttering. Out of 136 stutterers 112 (82%) had repetition, 28 (20%) had prolongation while 94 (70%) had silent block. In present study 15 (11%) had mild stuttering, 98 (72%) had moderate stuttering while 23 (17%) had severe stuttering. Out of 136 patients 102 (75%) had secondary stuttering characteristics including 94 (75.8%) male and 8 (67%) female stutterers. On statistical analysis of association between age of onset with family history p value was 0.448 (>0.05) while association between age of onset with severity p value was 0.00001 (<0.05). On statistical analysis of association between duration of disease with severity p value was 0.2636 (>0.05) while association between duration of disease with secondary characteristics p value was 0.0031 (<0.05). On statistical analysis of association between family history with severity of stuttering p value was 0.5123 (>0.05) while association between family history with presence of secondary characteristics p value was 0.1713 (>0.05). On statistical analysis of association between severity of stuttering with presence of secondary characteristics p value was 0.1210 (>0.05) while association between severity of stuttering with number of secondary characteristics p value was 0.0105 (<0.05) (Table I).

Discussion

This qualitative study was conducted with the aim of assessment of relation of age of onset and family history of stuttering on primary characteristics and secondary accessory behaviour. Out of total 136 patients 91% were

Table I: Depicting association between age of onset of stuttering and family history, severity and primary & secondary characteristics of stuttering.

		AGE OF ONSET OF STUTTERING			TOTAL	P VALUE
		0-3 YEARS	3-6 YEARS	>6 YEARS		
Number of stutterers		15	98	23	136	
Family History	Positive	03	34	9	46	0.448624
Primary Characteristics of stuttering	Repetition	15	75	22	112	<0.00001
	Prolongation	01	06	21	28	
	Silent Block	05	67	22	94	
Severity of stuttering	Mild	13	01	01	15	<0.00001
	Moderate	01	96	01	98	
	Severe	01	01	21	23	
Secondary characteristics	Present	08	76	18	102	0.120867

male while 9% were female stutters. Yairi E, and Ambrose N reported that stuttering is 4 times more common in male than female.⁷ In our study also male stutters were 10 times more than female stutters. In our study 71.3 % stutters were above 12 years of age, which suggest that dysfluency persists after adolescent and do not go off in all stutters automatically with age. As per Yairi E, and Ambrose N up to 1% of adult population has persistence of stuttering from their childhood.⁷ As per parents in present study 72% stutters have onset of dysfluency between 3-6 years of age, 17% after 6 years of age and 11 % before 3 years of age. So, in our study 72% stutters had developmental stuttering. Ludlow CR mentioned that developmental stuttering accounts for 80% of dysfluency in general public.⁸ In our study 36.4% of male stutters had positive history of speech dysfluency in first degree family member. Walsh B et al reported that 53% of persistent stutters had positive family history while positive family history was present only in 14% who recovered.⁹ Among all stutters we found repetition as most common primary

characteristics followed by silent block and prolongation. Butt G A reported silent block in 87.5% and repetition among 79.17% stutters.¹⁰ In our study 72% stutters had moderate severity of stuttering characteristics. We found 75% stutters in present study had secondary characteristics at first appointment with speech language therapist. Avoidance and hesitation were most common secondary characteristics seen in present study. On statistical analysis we found significant association between age of onset and severity of stuttering which suggest that severity of stuttering is more who had early occurrence of stuttering in their life. On statistical analysis we found significant association between severity and presence of number of secondary characteristics of stuttering, which suggests that with increasing severity, different secondary characteristics of stuttering also increase among stutters. We also found statistically significant association between duration of stuttering and secondary characteristics suggesting as stuttering progress secondary characteristics also develops. We did not find

significant association between family history of stuttering and age of onset, severity and secondary characteristics.

Conclusion

Stuttering is a common finding among school age children which starts usually in preschool time and may persist up to adult age. Stuttering is characterised by different speech related problems and topic of concern among stutterers, teachers, parents, otorhinolaryngologists and speech language therapist. In present study we conclude positive association between age of onset and severity of stuttering, between duration of stuttering and secondary characteristics and between severity and number of secondary characteristics of stuttering. We also conclude no significant association between family history and age of onset, severity and secondary characteristics of stuttering.

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