



# Frequency of Stuttering and Its Common Symptoms among Children with Speech Disorders

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## ABSTRACT

**BACKGROUND:** Stuttering also known as stammering is a speech disorder which disrupts the normal flow of speech by frequent and involuntary repetition, prolongations of sounds, syllables, words or phrases. It also involves involuntary silent or audible pauses or blocks in which the person with stuttering is unable to produce any sounds.

**OBJECTIVE:** To determine the frequency of stuttering and its common symptoms among children with speech disorders and to determine the frequency of stuttering in males and females.

**METHODOLOGY:** This cross sectional study was conducted at Department of Developmental Paediatrics, The Children's Hospital and Institute of Child Health, Lahore from October 2012 to December 2012. The number of patients with speech disorders was 100 who were evaluated for stuttering through simple convenient sampling technique. All patients with speech sound disorders, fluency disorders, voice disorders from age range 5 to 17 years were included. A questionnaire was developed through expert opinion and literature review to conduct this study. The all results were analyzed by using SPSS.

**RESULTS:** Out of 100 patient 24 (24%) patients was presented with stuttering while 76 (76%) patients had other speech disorder. Among 24 patients of stuttering, 16 (66.67%) were male and 8 (33.33%) were females, 19 (79.17%) patients had repetition, 21 (87.5%) had blocks, and 21 (87.5%) patients had physical tension.

**CONCLUSION:** The results of this study showed there are a significant number of patients with stuttering among other speech disorders and males are more prone to this disorder. The frequency of symptoms showed that common symptoms of stuttering are blocks, physical tension and repetition.

**KEY WORDS:** Stuttering, Repetition, DSM, Dysfluency.

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## INTRODUCTION

Stuttering can be defined as a speech disorder in which normal flow is disrupted and speech contain frequent prolongation or repetition of sounds or syllables, frequent hesitation, blocks or pauses. Beside these overt symptoms, stuttering also present with covert behaviors like anxiety, fear, shame, guilt, avoidance, or contending. Stuttering is like as an iceberg, having few symptoms above waterline and many symptoms below it.<sup>(1)</sup>

Speech can be defined as the exchange of spoken words and disorders that affect the normal production of speech are known as speech disorders. Problems in articulation, fluency and in voice are included in speech disorders. Usually these disorders occur due to oral-motor difficulties and speech therapy is used for treatment.<sup>(2)</sup> Stuttering is classified in the International Classification of Diseases, version 10 (ICD-10) as a

behavioral and emotional disorder, and coded as F98.5 with this description that normal flow of speech is disrupted by repetition, prolongation, pause or blocks. It should be classified as a disorder only if its severity is such as to markedly disturb the fluency of speech.<sup>(3)</sup> In the forthcoming version of Diagnostic and Statistical Manual of Mental Disorders (DSM-V, published by the American Psychiatric Association, 2012) stuttering is classified as a neuro developmental disorder and coded as 307.0 Stuttering.<sup>(4)</sup> Fibiger in 2000 reported prevalence of stuttering in twins about 4 % for females and 8 % for males.<sup>(5)</sup>

Mansson in 2000 conducted pilot study on the entire population of children born within a 2-year period. He reported the results on incidence and development of early childhood stuttering and found that the stuttering incidence reached the level of 5.19% and 71.40% of the children within 2



years.<sup>(6)</sup> Parven et al. conducted a research to observe the occurrence of stammering in the different six areas of Sheringal, Khyber Pakhtunkhwa, Pakistan during June 2013-August 2014. They took sample size of 200 people for these areas. They reported high rate of stammering in the age range of 6-12 years and also high occurrence of stammering in middle socioeconomic class.<sup>(7)</sup> Yairi and Ambrose in 2005 reported that males are experiencing more stuttering than females and twins might with high ratio of stuttering than single-born children. They also indicate 65% stuttering onset before age 3 years and 85% before age 3.5 years.<sup>(8)</sup> Mahr and Leith in 1992 reported that psychogenic stuttering may develop in adulthood after any traumatic deprivation.<sup>(7)</sup> Helm-Estabrooks in 1999 reported that stuttering onset is rare in adulthood and stuttering like symptoms could be develop later in life due to head injury, accidents, strokes, drug abuse or tumor.<sup>(8)</sup>

In this research report, efforts are made to help the speech and language pathologist to know the current frequency of stuttering among other speech disorders, thus they can effectively deal with this rate of stuttering and plan proper therapeutic techniques for better invention for stuttering.

## METHODOLOGY

The purpose of this research was to determine the frequency of stuttering among and its symptoms among children with speech disorders. This study also determines the frequency of stuttering in males and females. A cross sectional survey design was selected for the purpose of this research. Simple convenient sampling technique was used. Data was collected at Department of Developmental Paediatrics, The Children's Hospital and Institute of Child Health, Lahore from October 2012 to December 2012. Estimated stuttering population in Pakistan is close to 100 per 10,000 populations.<sup>(11)</sup> On the basis of stuttering population in Pakistan with 99% confidence level and 1% confidence interval a sample size of 100 patients was taken.<sup>(12)</sup> They were selected on the basis of inclusion and exclusion criteria. The children with age range between 5 to 17 years with speech

disorders were selected. A semi structured questionnaire was used. It includes basic history and stuttering symptoms. Direct method of observation by researcher was used in this investigation. On the basis of data collected analysis was done to determine the frequency of stuttering in children. The data was entered in SPSS for statistical analysis.

## RESULTS

Among 100 patients 24 (24%) had stuttering and 76 (76%) had any other speech disorder.

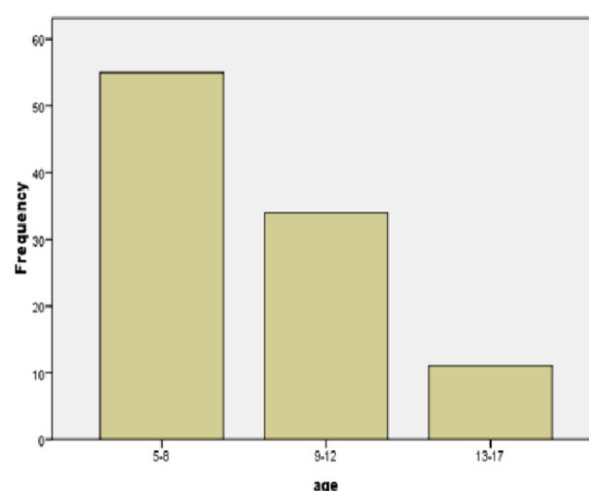


Figure 1: Bar Chart of Age

The results indicate that out of 100 patients 55 (55%) were in age range 5- 9 years, 34 (34%) were in age range 10-12 years and 11 (11%) were in age range 13-17 years.

Table 1 : Cross tabulation between stuttering and age of patients

Stuttering	Age			Total
	5-9years	10-12years	13-17years	
Yes	8	9	7	24
No	47	25	4	76
Total	55	34	11	100



The cross tabulation between stuttering and age of patients showed that 8 patients were in age range 5-9 years, 9 patients were in age range 10-12 years and 7 patients were in age range 13-17 years

**Table 2: Cross tabulation between stuttering and gender of the patients**

Stuttering	Gender		Total
	Male	Female	
Yes	16	08	24
No	41	35	76
Total	57	43	100

The cross tabulation between stuttering and gender showed that out of 24 patients of stuttering 16 were male and 8 were females. The frequency table of all

**Table 3: Frequency of Symptoms Associated With Stuttering (n=24)**

SYMPTOMS	YES	NO
<b>Primary symptoms</b>		
Normal fluency	0 (0%)	24 (100%)
Repetition	19 (79.17%)	05 (20.83%)
Prolongation	12 (50%)	12 (50%)
Pauses	18 (75%)	06 (25%)
Blocks	21 (87.5%)	03 (12.5%)
<b>Secondary symptoms</b>		
Circumlocution	08 (33.33%)	16 (66.67%)
Physical tension	21 (87.5%)	03 (12.5%)
Low self esteem	18 (75%)	06 (25%)
Anxiety	16 (66.67%)	08 (33.33%)

the symptoms that were included in the Performa based on diagnostic criteria of stuttering shows primary and secondary symptoms of stuttering out of 100 patients that include 76 (76%) normal fluency, 16 (16%) repetition, 12 (12%) prolongation, 18 (18%) pauses, 21 (21%) blocks, 8 (8%) circumlocution, 21 (21%) physical tension during speech, 68 (68%) low self-esteem, 24 (24%) anxiety.

## DISCUSSION

The results of this study was closely related to previous proven researches, thus showing a significant increase frequency of stuttering among other speech disorders and also showed high rate

of stuttering among males than females.

The results of this study showed 24% of stuttering among all speech disorders in children from age range 5-17 years coming to Children Hospital Lahore and also the study of Karbasi et al in 2011 mentioned the prevalence of stuttering, speech-sound disorders and stuttering in a school in Iran-Yazd. They took 7881 students of primary school students with speech disorders by using face to face and direct technique of assessment. They reported results and showed the prevalence of total speech disorders 14.8% among whom 13.8% had speech-sound disorder, 1.2% stuttering and 0.47% voice disorders.<sup>(13)</sup>

The result of this study reported common symptoms of stuttering were repetition of sounds or syllables, blocks and physical tension and in the study of Prasse et al. they reported primary symptoms of stuttering repetition, prolongation of sounds or words commonly occur and secondary symptoms of stuttering that include physical concomitants, head jerking or eye blinking also worsen the condition.<sup>(14)</sup>

Helm et al studied the acquired stuttering and reported symptoms of blocks, physical tension during production of speech sounds, they noticed difficulties in supra segmental features during speech for these patients as well.<sup>(15)</sup>

The survey of karbasi et al in 2011 also showed higher prevalence of speech disorders in males (16.7%) than in females (12.7%) and this result has also support this study.<sup>(13)</sup> The study of Proctor and Yairi in 2008 also reported 2.52% prevalence of stuttering in African American 2 to 5 year olds children in comparison with European Americans of same age. Boys showed a higher prevalence of stuttering as compare to girls in both racial groups.<sup>(16)</sup> Stansfield in 2008 conducted a study on 793 adults with mental handicaps and showed 6.3% of that population had idiopathic dysfluencies. They used questionnaire for screening and assessment.<sup>(17)</sup> McKinnon, McLeod and Sturt in 2007 also showed the prevalence of speech disorders and estimated 0.33% of students with stuttering, 0.12% with voice disorder and 1.06% with speech-sound disorder. The prevalence of speech disorders was higher in males as compared



to females.<sup>(18)</sup> Porfertand Rosenfield in 1978 reported that male are more affected than female and right handed males showed poor prognosis of stuttering than females. They reported 2.1% stuttering prevalence in population of university. All type of stutters have strong family history as well.<sup>(19)</sup>

## CONCLUSION

This study showed that high frequency of stuttering in males than females. It is also observed that patients with age range 10 to 12 years are mostly coming to hospitals for intervention because during this period there is a burden of school as well from parents and society that cause difficulty for them to cope with rapid pace of communication. Most common symptoms observed are blocks, repetition, and physical tension.

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