

*Research Article***Language disorders in preschool Egyptian children with stuttering****Haytham M. Mohammed, Effat A. Zaki, Zienab Kh. Mahmoud and Shaimaa O. Abdelhamed**

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**Abstract**

**Introduction:** Stuttering is a neurodevelopmental disorder whose primary symptoms are dysfluencies, involuntary disruptions in the normal flow of speech stuttering like disfluency (SLDs) include syllable and sound repetitions, dysrhythmic phonations such as blocks, prolongations and broken words. **Aim of the work:** The aim of this work is to establish baseline data about the size and distribution of language disorders among Egyptian stuttering children in order to put a plan of early detection, proper assessment and intervention of these problems if possible. **Patients and Method:** **Sample size:** This study was carried out on one hundred and four preschool age children who will be classified into 2 groups: The (study group) included 52 children who stutter "CWS". The result from the study group were compared to another group (control group), which included 52 children with who do not stutter "CWNS" children. The control group were randomly selected from children who were referred to ENT clinic El Minia University Hospital. **Results:** Data reduction followed three main lines: 1.Descriptive analysis: in order to examine the profile of the results., 2.Comparative analysis: in order to compare between the two groups (study and control)., 3.Correlative analysis: in order to investigate the relationship between the possible affecting factors and the results. **Summary** The results from this study reported that stutterers were delayed in language and children who stutter score lower on measures of expressive and/or receptive language, as well as exhibit significantly more grammatical errors in their conversational speech and simpler, less mature language when compared to their normally fluent peers. So, early consultation is recommended for the stuttering children for early detection and proper management of any language disorders.

**Keywords:** Language disorders, stuttering, dysfluencies**Introduction**

Stuttering is a neurodevelopmental disorder whose primary symptoms are dysfluencies, involuntary disruptions in the normal flow of speech stuttering like disfluency (SLDs) include syllable and sound repetitions, dysrhythmic phonations such as blocks, prolongations and broken words<sup>(1)</sup>.

The lifetime incidence of stuttering is estimated at approximately 4–5%, with a 1% point prevalence<sup>(2)</sup>.

Developmental stuttering evolves before puberty, usually between two and five years of age without apparent brain damage or other known cause (idiopathic). Neurogenic or acquired stuttering occurs after a definable brain damage e.g stroke, intracerebral hemorrhage, or head trauma<sup>(3)</sup>.

Developmental stuttering is a speech disorder in which sounds, syllables, or words are repeated or prolonged, disrupting the normal flow of speech<sup>(4)</sup>.

**Aim of the work**

The aim of this work is to establish baseline data about the size and distribution of language disorders among Egyptian stuttering children in order to put a plan of early detection, proper assessment and intervention of these problems if possible.

**Patients and Method****Sample size:**

This study was carried out on one hundred and four preschool age children who will be classified into 2 groups:

The (*study group*) included 52 children who stutter "CWS". The result from the study group were compared to another group (*control group*), which included 52 children with who do not stutter "CWNS" children. The control group were randomly selected from children who were referred to ENT clinic El Minia University Hospital.

#### The study group (G1)

This group included 52 children with stuttering. They were 43 males (42.7%) and 9 females (17.3%) with a mean age of  $4.28 \pm 1.10$  of preschool age and a range of 3 years to 7 years.

#### The control group (G2)

This group included 52 children without stuttering. They were 39 males (75%) and 13 females (25%), with a mean age of  $4.43 \pm 1.35$  of preschool age and a range of 2 years to 7 years.

### Methods

All children were assessed according to the assessment protocol in the Phoniatic Unit, Minia University Hospital. This protocol is classified into:

#### Preliminary Diagnostic Procedures:

- 1- Parents interview and history including complaint, personal data, personal history, searching for etiological factors during pregnancy, natal, neonatal, and postnatal periods, developmental milestones and illness of early childhood.
- 2- ENT examination including ear, nose and throat examination.
- 3- Subjective auditory perceptual assessment "APA" of both language and speech.

### A- Descriptive analysis:-

#### (1) Demographic data:

Table (3): comparison between study G1 and control G2 group regarding demographic data:

DATA		Study N=52	Control N=52	P
Age	Range	3-7	2-7	0.1
	Mean $\pm$ SD	$4.28 \pm 1.10$	$4.43 \pm 1.35$	
Sex	MALE	43 (42.7%)	39 (75%)	0.3
	FEMALE	9 (17.3%)	13 (25%)	

P value<0.05 (significant), P value>0.05(no significant), P value<0.001(highly significant)

### Results

#### Data reduction followed three main lines:

**1. Descriptive analysis:** in order to examine the profile of the results.

**2. Comparative analysis:** in order to compare between the two groups (study and control).

**3. Correlative analysis:** in order to investigate the relationship between the possible affecting factors and the results.

Data entry and analysis were all done with I.B.M. compatible computer using software called SPSS (Statistical Package for social science) for windows version 13. Graphics were done by Excel.

Quantitative data were presented by mean and standard deviation, while qualitative data were presented by frequency distribution.

Independent sample – test independent T sample test used to test the significant differences regarding quantitative data.

Correlation test used to test the association between quantitative data. **P** value was considered statistically significant (**S**) if <0.05 and highly significant (**HS**) if <0.001 and no significant (**NS**) if >0.05.

#### I. Descriptive and comparative analysis :

The children in this study included in two groups:

**The study group (G1):** includes 52 patients diagnosed as stuttering.

**The control group (G2):** consists of 52 normal individuals, they were collected randomly from member not suffering of stuttering (relatives of patients). Both of the study and control group will be statistically matched in all comparative data.

## Discussion

Stuttering is a multifactorial speech disorder defined by frequent prolongations, repetitions, or blocks of spoken sounds and/or syllables<sup>(6)</sup>. Stuttering speech patterns are often easily identifiable; when a child is learning to talk, repetition of sounds or words, prolonged pauses, or excessively long sounds in words usually occur. Secondary behaviors (e.g., eye blinking, jaw jerking, involuntary head or other movements) that accompany stuttering can further embarrass the child, leading to a fear of speaking<sup>(7)</sup>.

Homzie and Lindsay<sup>7</sup> proposed that childhood speech dysfluencies are related to difficulties in acquiring language and that language deficits in children are a contributing and maintaining component of stuttering.

This study aimed at investigating the baseline data about the size and distribution of language disorders among Egyptian stuttering children (study group) in comparison to non-stuttering children (control group). The two groups were matched as possible in their sociodemographic data (age and sex of children) in order to put a plan of early detection, proper assessment and intervention of these problems if possible.

Statistical significant differences were obtained between the study and the control group regarding consanguinity. In the study group there were (36.5%) children with positive consanguinity in comparison to (5.8%) for control group. We would predict that the study group would have a genetic component to this disorder. This result is in agreement with Frigerio-Domingues and Drayna<sup>(8)</sup> who reported that the stuttering families with mating patterns not commonly found. These produced more definitive evidence for linkage, with loci on chromosomes 3, 12, and 16 identified in highly consanguineous families and on chromosomes 2, 3, 14, and 15 in a large polygamous family.

Non statistical significant differences were obtained between the two groups as regard handedness. This result differed from the result advocated by Christensen and Sacco<sup>(9)</sup> who found that the laterality scores (LS) of stutterers and non-stutterers were significantly different,

with the stutterers being more non right-handed. Our results aren't in agreement with Bishop<sup>(10)</sup> who reported higher rates of non-right-handedness in stutterers than controls. That explained by that the etiology of stuttering in terms of an "incomplete" cerebral dominance or lateralization of language in the brain. Our result may be explained by that the small sample of the children who stuttered, therefore, every effort should be made in future research to involve participant samples that are representative of children who stutter from both clinical and community samples.

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