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INCIDENCE OF STUTTERING IN TWINS AND SINGLETONS IN SELECTED SCHOOLS IN IBADAN TOWNSHIP

By

ABOSI C. O. Ph.D.

and

OSOWOLE O. S.

Department of Special Education,
University of Ibadan

Abstract.

This study was carried out to survey the incidence of stuttering in two sets of population the twins and singletons. The sample of the study came from selected schools in Ibadan township and the stutterers in their families. Using the Chi-Square Statistics, it was found that the incidence of stuttering in twins is not significantly higher than that of singletons and that the incidence in males is not significantly different from the incidence in females.

Introduction

Among the calamities incidental to human nature, there are few so distressing as confirmed stuttering, especially that variety which is attended with muscular contortions. Those persons who have only occasionally met with cases of defective utterance in general society, can have but a faint idea of the agony of its victims, unless they have witnessed its effects in the domestic circle or subjects in whose welfare they feel interested. For while the deaf mute is pitied, the stutterer is laughed at.

It is important to know about the production of speech because stuttering is a defect of speech. The production of speech is effected by the conjoint agency of respiratory, vocal and articulatory organs. Respiration can take place without articulation but speech and voice cannot be produced without the action of respiration. In 'normal' individuals, respiratory movement is a long inhalation and short exhalation but the stutterer has a reversed type of breathing with short inhalation and long exhalation. Speech is an articulated voice but the instant of time in which it is produced is so short that we scarcely appreciate it. Thus the perfection of speech therefore depends on the development of the mind, healthy state of the vocal and articulating apparatus and the right use of all the organs concerned, in the production of voice and articulate sound.

All researches carried out only look into a part of it. Out of all speech disorders, stuttering has remained the greatest puzzle of all. It is so complex and intriguing because those who stutter do so in different ways. Adults do stutter differently from children and although it begins most often in childhood, the adult form rarely resembles that which precedes and give intimation of a coming event or precursor. Stuttering has probably received more attention than any other speech disorder because of the way it dramatically exposes many of the unpleasant sides of social living. It is the desk mirror of speech reflecting man's frustration in communicating with his fellows.

In general, persons who stutter find it very difficult to speak in public or any situation in which they feel unsure. Among the great names in history of people who stuttered were Aristotle, Assop, Desmothers, Virgil, Chales Lamb, Erasmus, Darwin, Moses and several kings of England and France.

Very many good minds have attempted a definitions of stuttering but the variability among them makes clear that this complex and variable always seem able to evade capture and some of the definitions are merely statements of authors' points of view respect to cause and nature. Coriat (1943) defined stuttering as a psychoneurosis caused by persistence into later life of early pregenital oral nursing, and oral sadistic components. Glauber (1958) stated that it is a symptom in a psychopathological condition classified as a pregenital conversion neurosis, Johnson (1955) said it is an anticipatory, apprehensive, hypersonic avoidance reaction. In other words stuttering is what a speaker does when (1) he expects stuttering to occur (2) dreads it (3) become tense in anticipation of it and (4) trying to avoid doing it. He said that it is an evaluation disorder.

Literature has shown that there are three universally accepted types. These are normal non-fluency, primary and secondary types of stuttering. The first is a stage through which a child passes in normal development of speech. This is because the child is doubtful of what he wishes to say. Here the reception of speech is greater than expression of same. This was postulated by Johnson et al (1961). The second type is where repetitions of sounds are more frequent, prolonged and tend to occur in situations where most children are relatively fluent. Here, the child is unaware of his defective speech and does not regard himself as a stutterer. The average age at which this occur is between ages 5 and 7. This was the conception of Van Riper (1959). The third type is the most dreaded because the person is aware of his stuttering, attempts to modify and avoid them. A stutterer or strutter thus resort to several avoidance techniques and frustration sets in when stuttering interferes with his ability to communicate. The average age is between 12 and 14 years of age. Ironically, ages at which these types of stuttering occur coincide with the education of a child.

One of the earliest and most obvious characteristics of stuttering is the tendency for repetition, especially of syllable to occur. Repetitions of phrases, words and syllables are common among very young children and are not usually regarded as indicative of stuttering as found by Metraux (1950) and Davis (1939) who has described repetition as being part of speech pattern for children up to 5 years of age with syllabic repetitions being more among boys than girls. Another characteristic is that which is very distressing for both the speaker and the listener known as silent blocks. Here the speaker appears to be unable to produce any vocalization at all in spite of strenuous efforts. A block usually occur at the beginning of sentences, phrases or words. Van Riper (1936) stated that this group tends to be characterised by consistent forms of thoracic breathing during a block in the flow of speech. Others are tensions, avoidance behaviour and prolongation of sounds, words or syllables.

From literature, no one knows the specific causes of stuttering. Some causes suggested are that it is an inherited disorder (Wepman (1939), Nelson (1939). Secondly, Travis (1964) argued that there exists certain somatic variations producing unbalance with the individuals constitution which may lead through personality disturbances to stuttering. This emanates from Pavlov's, theory of conditioning. Thirdly Kopp (1934) said it is caused by some physiological anomalies in the individual. He found in general that they tend to have a higher sugar content in their blood than non-stutterers. Lastly, Van Riper (1954) in his Eclectic view of stuttering believes that it may have multiple origins. He contended that most children exposed to excess of fluency disruptors turn out to be stutterers. In addition, he said parents may mis-evaluate their children's normal non-fluencies and react to them with anxiety or punishment or both.

One of the neglected pieces of the stuttering puzzles is its incidence. How many stutterers are there in the general population? Are there sub-populations, special groups in which the disorder is found very frequently or others in which it appears rarely? Unfortunately the extensive list on the subject is not very illuminating. The curious thing about these studies of incidence however is that the magical number of 1% seems to occur over and over again, most of the incidence figures centre or cluster about this value. We also find higher incidence: reported for the younger age groups and without expectations more males are reported as having the disorder than females. Both cross-sectional and longitudinal surveys show that the prevalence of stuttering is not evenly distributed with respect to age. Craft (1955) clearly indicates that the total incidence of stuttering probably amounts conservatively to about 4% of the general population and its prevalence is highest in preschool years declining thereafter to an unstable value of less than 1%.

Among the subjects in which a high incidence of stuttering has been reported are twins. Most evidence seem to show that it is higher in monozygotic twins than dixygotic twins which may reflect mutual learning rather than heredity since twinning strain seems to be reflected in fraternal than identical twin births. Graft (1955) found the incidence to be 1.9% in her research. Berry (1937) pointed out that stuttering occurs relatively more frequent in twins and in families in which twinning occurs. Nelson et al (1945) studies 200 twin pairs and found stuttering in 20% of them. Schnell (1946) offered the hypothesis that when stuttering occur in fraternal twins it is usually to be found in physiologically less mature member and results from the pressure placed upon him to keep pace with the other one.

In view of the large numbers of stutterers found among twins, it is reasonable to expect the converse a high incidence of twins among stutterers. Berry (1976) found that 4.5% of 461 stuttering subjects were twin-pairs as against only 1.2% among 500 non-stutterers. West (1958)

offered an alternative hypothesis that the slowness of early maturation frequently associated with multiple birth may contribute to a general constitutional retardation which he believed to underlie stuttering. Moreover Carrol (1965) found no difference between twins and non twins in 58 stutters he studied and Kock (1966) in a study of 90 pairs of twins concluded that stuttering and twin sygosity are not significantly related.

In spite of obvious sampling limitations, a study by Heltman (1949) on the incidence in singletons arrived at incidence figure of 1% Osinowo (1981) found that 2.38% of the school children she studied stuttered. Sido (1986) also found the incidence in singletons to be 1% in Ethiopie Local Government of Bendel State.

West et al (1939) studied 304 families of stutters and reported that stuttering ran in 50% of them for several generations. Osowole (1987) in a similar study found 11 twin stutters and 57 singleton stutters in the families of 103 stutters studied.

One of the most interesting findings concerning the incidence of stuttering is the complete agreement that males show more stuttering than females. The preponderance is not minor. Aron (1962) obtained a ratio of 3.2 to 1 among Bantu school children and Sato (1961) obtained a ratio of 4.5 to 1 from Japanese Nursery school children.

Stuttering has been alleged to have a high incidence among the brain injured especially the cerebral palsied as cited by Palmer and Osborn (1938) and Rutherford (1938) and the epileptic population. It is also more in mongoloid retarded than non-mongoloids. Harms and Halone (1939) found 8 totally deaf stutters in a population of 14,458 individuals in oral schools for the deaf and hard-of-hearing. This low incidence can be attributed to the fact that the deaf can more carefully speak more slowly and controllable and have less social pressure.

Hypotheses

Two null hypotheses were tested in the study. They are:

1. There will no be significant difference in the incidence of stuttering in twins and singletons.
2. There will be no significant difference in the incidence of stuttering among males and females.

Methodology

The survey research design was used in this study. This was used because the study was out to collect opinion from subjects.

Subjects

One hundred and seventy (170) subjects were used for this tudy. 102 of them were those who answered directly to the questionnaires the remaining 68 stutters were from the responses of the total 817 questionnaires administered. 11 respondents have twin stutters in their families and 57 have singleton stutters. Out of the 170 stutters, 101 of them are males while the remaining 69 were females. The ages of the stutters ranged from 6 years to 19 years. The mean age was 14.20 years for all of them while 15 years and 13.89 years were the mean ages for twins and singletons respectively.

Instrument

Two types of questionnaires were used. One was used to collect data from the parents of primary school pupils while the other was used to collect data directly from secondary school pupils. The two questionnaires used had 20 items each. The first five items consist of the bio-data of respondents. The remaining 15 items have to do with the problem. Stammering was used on the questionnaires instead of stuttering because people are more familiar with the former.

Procedure

The questionnaires meant for the primary school pupils' parents were distributed to the pupils to take home to their parents with the help of their teachers. The investigator went back later to collect the questionnaires. For the post primary institutions, the questionnaires were distributed to the pupils who filled them immediately and the investigator collected them back. There was no time limit in filling the questionnaires. The investigator made sure that the

respondents filled the questionnaires after they had fully understood what to do After the data collected were organised in preparation for the analysis. The questionnaires were used to test the two hypotheses using Chi-Square Statistics.

RESULTS

Hypothesis I

There will be no significant difference in the incidence of stuttering in twins and singletons.

	Twins	Singleton	Total
Stutterers	40	130	170
Non Stutterers	141	564	705
Total	181	694	875

$\chi^2 = 1.1$ $P > .05$
Not Significant.

Using the above Chi square table to test the null hypothesis, It was found that there is no significant difference in the incidence of stuttering in twins and singleton.

Hypothesis II

There will be no significant difference in the incidence of stuttering in male and females

	Male	Female	Total
Stutterers	101	69	170
Non Stutterers	470	235	705
Total	571	304	875

$\chi^2 = 3.2$ $P > .05$
Not Significant

Using the above Chi square table to test the second null hypothesis, it was observed that there is no significant difference in the incidence of male and female stutterers.

Discussions

The findings would be discussed in two ways. Adopting the Chi Square Statistics, it was found that there was no significant difference in the incidence of stuttering among the two groups.

But looking at the result at a glance, one observes that there is more incidence of stutterers among singleton and more male than female stutterers.

This finding is in line with the research findings of researchers like Graft, Berry, Luchinger and a host of others. They found that the incidence in singleton is higher than incidence in twins in the population which ranges from 1.9% to 24% of the population.

The second finding was that there is no significant difference in the incidence of stuttering between males and females. This finding contradicts the findings of most researchers. Many of the researchers found a significant with ratio 3.2 to 1 respectively. The male female ratio of 102 stutterers that responded directly to the questionnaires is 1.08 to 1 and for the 170 stutterers used as a whole, the male-female ratio is 1.5 to 1. This shows the level of insignificance of the incidence of stuttering in males and females.

Apart from the above findings, there are other findings worth mentioning. 15 respondents reported that they have other speech problems. Most of them did not specify which type but some gave funny responses like inability to speak English fluently, cannot speak Hausa and Igbo and some are too fast in speech.

On the causes of stuttering most people said they had no idea but some mentioned causes like heredity, imitation and when angry. Most think it is hereditary because it tends to run in families but it should be noted that it may not be genetic but psychological. This is in the sense that a little child just learning to speak is exposed to bad speech from adults around and as a result there would be 80% assurance that the child too would be defective in speech unless he is removed from that immediate environment to where he can have a good model. This confirmed the observation of Charles Van Riper that the causes of stuttering may be multiple as postulated in his Eclectic view on the causes of stuttering.

On ages onset, many gave no responses, some said early in childhood while some gave the ages. These ages ranged from one year through 17 years. Most of the ages given are incredible. Also on the age at which they stopped, some gave 3 years and some 10 years. The span between age of onset and age at which they stop are somehow very close. Some say they started at age 15 and stopped at 16 while some start at 10 and stop at 15 years.

Conclusion

Stuttering among children have posed a great deal of problem for children. It's incidence among male; female, twins and singleton were looked into. Two null hypotheses were tested. The two hypotheses were accepted because there was no significant difference in the incidence of stuttering in twins and using Letons and male and female. Also about 15 reported that they have other speech problem.

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