Biomedical Research 2017; Special Issue: *ISSN 0970-938X*
www.biomedres.info

Awareness about stuttering and self-therapy of stutter in the adult stutters.

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Abstract

Objective: To investigate: The level of understanding regarding the problem of stuttering Awareness of Self Therapy among adult stutters.
Study design: Cross Sectional study design was used for this study.
Setting: Research was conducted in tertiary care units of public and private sectors Hospitals in Lahore Pakistan (Combined Military Hospital, Mayo Hospital and Fatima Memorial Hospital).
Duration of study: Study is completed within the time frame of six months from September 2014 to February 2015.
Methodology: Between the eras of October 2014 to March 2015, Adult clients of stuttering were taken, who were above the age of 15 years. Inclusion criteria included all the males and females above the age of 15 who were stuttering. It includes students, males and females, having blockage, repetition, prolongation or any other primary or secondary symptom of stuttering. All the stutters with congenital or chronic diseases were excluded. All patients were interviewed briefly prior considering them to be a part of study, to ensure they meet the inclusion criteria. After literature review and expert opinion, a Performa was developed and validated by 10 experts (having minimum 5 years field experience). Performa included the information of bio data, age of the individual and information about their education or employment status, onset of the problem, when they started taking therapy, duration of taking therapy and type of therapy, and whether they are taking therapy once, twice or thrice in a week.
Results: There is significant correlation between Understanding regarding the problem of Stuttering and Awareness of Self therapy for Stuttering. There is significant effectiveness found, of Understanding regarding the problem of Stuttering on Awareness of Self therapy for Stuttering
Conclusion: It was concluded that adult stutters who understand their problems in speaking, are also aware of certain self-therapy techniques that are helpful for them in coping with their stuttering behaviour. These self-therapy techniques vary individual to individual because of the individual differences. It was also concluded that the greater stutter has awareness regarding his speech problem the greater he use and employ self-help therapeutic techniques.
Limitations: The study was conducted only on adult stutters. It was a short term research. Population was taken from only one city of Pakistan.
Recommendations: Study should be conducted on large scale with large sample size. Study should include population of more than 1 city of Pakistan. Study can include children who stutter too, in future research

Keywords: Stuttering, Speech Therapy, Fluency, Speech utterances, Self-help Therapy.

Accepted on October 19, 2016

Introduction

Stuttering is a pattern of speech that affects one's fluency of speech. It is also known as disfluencies. There are many approaches for treatment of stuttering in children as well as in adults, however, a rather new and very beneficial technique is Self-Therapy. Self-Therapy is actually a program that helps stutter to face his problem in speech and also helps in working towards improved better communication with others. In Psychology, Warren defines stuttering as "A disturbance in the rhythm of speech, either an intermittent blocking or the convulsive repetition of a sound."

Webster's New International Dictionary differentiates stuttering and stammering with a slight difference. They define stuttering as "To speak in a hasty and stumbling way, with spasmodic repetition of syllables and consonants; to hesitate or stumble in uttering words; to utter with spasmodic repetitions or pauses." They define Stammering as "To make involuntary stops in uttering syllables or words; to hesitate, falter, or block one's self in speaking." Commonly we use both terms, stammering and stuttering interchangeably, with a difference that stuttering

is usually used to a severe form of fluency or communication disorder than stammering [1]. It has been discussed widely that what actually causes stammering. There are many theories and views that describe the causes of stammering. Among all of them, the major cause is a libidinal fixation at oral-erotic level of development. It has been assumed that prolongation at this stage leads to pleasure seeking in sucking and other oral gratification and get the child away from the real source of satisfaction through speaking. Stutters are basically positive and egotistic. Freudian Psychoanalytic treatment was failed to deal with this cause of speech disorder and basically it focuses first and foremost on the stage of oral libido [2].

Another cause that has been discussed is that stuttering is basically not caused by physical issues. It is not something physical but only psychological. This view believes that stutter basically suffers from the word amnesia and this causes them to suffer and speech results as an interrupted non fluent production. This forgetfulness breaks the thought process that is important in speech production. Those who believe in this school of thought focused to work on thought process training of the individual, to lessen the word forgetfulness during speech production rather than speech production correction. This training of thought process includes training by signals, speaking in harmony, soundless speech, relaxation, unhurried speech and breathing training [3]. All school of thoughts are agreed that there is no single or particular cause of stuttering but various most important, influential, underneath and predisposing causes are there. The main and most important cause of stammering is familial patterns of anxiety, annoyance, and over-guidance or domination by a proficient parent. Well-known predisposing reasons are physical limitation and undernourishment. Emotional upset is also a predisposing cause of problem. It has been seen that gender ratio are also different being about 1 female to 20 males. Those who belong to this school of thought believes on working with negative practice is more fruitful than other therapeutic techniques [4].

Usually stutters are being reported lately and there are variations in the nature of cause, therapy procedures and prognosis levels. When detailed information was taken from adult stutters from various parts of the region in America, it was concluded that no matter from which region one belongs, all stutters share common causes, etiologies of stammering, therapeutic applications, outcome and prognosis level is almost the same for all [5]. Many psychologists and therapists confuse the foundation of stuttering in children and adults. Many believe that it is the result of malnutrition or mal nourishment and many consider that it runs in the family and is in the blood of the child. While, there are many who have strong belief in neurological causation of stuttering. Sometimes, culture barriers, language barriers also play an important role in provoking the stuttering. Anxiety, problematic relationships, parent child poor interactions, violence, restricted behaviors, emotions, social dysfunctions, learning problems, language problems and grammatical issues are important provokers of the stuttering in children as well as in adults [6]. Few Emotional and Psychological behaviors are so problematic that they cause inner conflict and inner breakdown in an individual. That unresolved conflicts complicate the personality to the extent that an individual starts stuttering to escape these conflicts [7]. Left handedness has been seen in majority of the stutters and gender based severity level has also been observed commonly. Males have been rated as severe stutters. It might be due to the manipulation of testosterone and hypo pigmentation factors [8].

There are researches who claim chemical changes and breathing pattern irregularity causes stuttering. Vibrant capacity of carbon dioxide (CO_2) is present when we produce speech in the air. There is a major difference in those who don't stutter and in those who stutter, of normal absorption of CO_2 in exhaled air. Stutters are 1/5 lower than the absorption of CO_2 during effortless speaking [9]. There are researches that indicate the left hemisphere dysfunction in stutters. There level of being anxiousness is also heightened [10]. As it is believed to be psychogenic in nature by most of the experts, and many other experts are there who are against this categorization who follow psychogenic causation, and focuses more on neurological, hereditary and other reasons, Mahr and Leith recommended three criterias to diagnose the stuttering including non-appearance of organic etiology, distorted speech patterns and perceptible psychosomatic factors.

This study is important for knowing whether people have understanding regarding their problematic speech patterns and have knowledge what are the signs and symptoms of stuttering and what does they really mean and do in production of speech and how they cause problem in speech production. This study is also significantly covering how stutters use self-therapeutic techniques and what are the impact of self-therapeutic techniques in their speech pattern and more over in their lives.

Materials and Methods

Between the eras of October 2014 to March 2015, Inclusion criteria incorporated all the males and females between the age of 15 years to 37 years, having stuttering. Study includes students (working or non-working), males and females, having blockage, repetition, prolongation or any other primary or secondary symptom of stuttering. Information that was taken from participants shows that minimum age of onset was 3 years and maximum age of onset was 12 years. Purposive sampling technique was used for the current study. Sample size was calculated by using the following formula with the help of bio-statistician. The confidence interval was taken as 95% with 5% precision:

$$ME = z2\frac{P(1-P)}{d2}$$

Sample of 110 patients was taken. Data shows that maximum participants were taking therapy from last one year, most participants were taking therapy from four years to five years and only 1 was reported for taking therapy for the longer period of 10 years. Interview and history taking reveals that patients were taking therapy but that was not usually on regular

basis. Time gaps were reported usually by those who have been taken therapy for longer periods.

All patients were interviewed briefly prior considering them to be a part of study, to ensure they meet the inclusion criteria. After literature review and expert opinion, a Performa was developed and validated by 10 experts of minimum 5 years experience. This included the information regarding bio data, age of the individuals and information about their education or employment status, onset of the problem, when they started taking therapy, duration of taking therapy and type of therapy whether they are taking therapy once, twice or thrice in a week.

Results

The assumptions of the multiple regression was satisfactory as in present study no tolerance value was below the cut-off (i.e. 0.2), however, the values closer to one indicate there is no multi co-linearity among the predictors (Table 1). It has been also found that per variable (IV) 10 participants were considered, for optimal sample for the regression analysis. It has been found that the understand subscale 2 is a significant predictor of awareness for self-therapy of stuttering (B=0.45, $p<0.05$) (Tables 2,3). In the present model, R2 explained the 7% variation in the criterion variable due to the predictors. The value of positive B indicates that as the predictor increases, the odds of the outcome occurring increase, and it also shows that one standard deviation unit change in the outcome variable. It has been found that the overall understand of the therapy significantly predicts awareness for self-therapy of stuttering (B=0.18, $p<0.05$). In this model, R2 explained the 5% variation in the criterion variable due to the predictor. The value of positive B indicates that as the predictor increases, the odds of the outcome occurring increase, and it also shows that one standard deviation unit change in the outcome variable.

- There is significant correlation between Understanding regarding the problem of Stuttering and Awareness of Self therapy for Stuttering.
- There is significant effectiveness found, of Understanding regarding the problem of Stuttering on Awareness of Self therapy for Stuttering

Table 1. *Understanding of Stuttering as a Predictor of Awareness for Self Therapy of Stuttering.*

	Awareness for Self Therapy	95%CI
Predictors	B	[LL, UL]
Constant	25.76**	[17.85, 33.67]
Understand sub-one	0.13	[-0.04, 0.29]
Understand sub-two	0.45*	[0.05, 0.86]
R2	0.07	
F	3.77*	

Table 2. *Overall Understanding of Stuttering as a Predictor of Awareness for Self Therapy.*

	Awareness for Self Therapy	95% CI
Predictors	B	[LL, UL]
Constant	26.23**	[18.30, 34.15]
Understand total	0.18*	[0.03, 0.33]
R2	0.05	
F	5.41*	
Note. *p<0.05. **p<0.01. (Enter method). R=0.22. N=108		

Table 3. *Percentage of Responses of each item in questionnaire.*

SR	Understanding regarding Stammering.	Strongly agree(%)	Agree (%)	Do not know (%)	Disagree (%)	Strongly disagree (%)
1	I am annoyed by my speech difficulties.	26.9	59.6	4.6	8.3	0.9
2	I am afraid of speaking and get embarrassment when I speak.	25	63	6.5	4.6	0.9
3	I blink eyes, slap body, bend or move body in some ways to start my speech.	20.4	50.9	17.6	9.3	1.9
4	There is increased muscle tension in the mouth, throat or lips when I speak	25	50	14.8	9.3	0.9
5	I hesitate or pause before or during speaking.	26.9	57.4	11.1	4.6	0
6	The phrase repetitions that I make bother me and others.	26.9	60.2	7.4	2.8	1.9
7	Corrections of phrases or sentences that I make during my speaking change meaning of what is say.	23.1	47.2	14.8	12	2.8
8	Sound repetitions, especially “uh” occurs while I am speaking.	22.2	55.6	13	3.7	4.6

9	I usually add sounds, syllables or words while speaking.	15.7	56.5	14.8	9.3	3.7
10	Prolongations, stretching or holding onto a sound makes me uncomfortable during my speech.	15.7	51.9	15.7	13.9	2.8
11	I stutter because of my muscular weakness.	10.2	36.1	24.1	23.1	6.5
12	I had severe temperature in my childhood and after that I begin to stutter.	12	33.3	20.4	25	9.3
13	I stutter because I am afraid of my parents.	11.1	39.8	17.6	22.2	9.3
14	My brother/sister used to stutter that is why I stutter too.	13.9	34.3	10.2	20.4	21.3
	Awareness about self-therapy					
15	I use many techniques to speak fluently developed by my own self.	11.1	43.5	18.5	20.4	6.5
16	I stutter easily when I want to.	8.3	36.1	31.5	19.4	4.6
17	I admit that I stutter and it comforts me a lot while I am speaking.	6.5	42.6	21.3	23.1	6.5
18	I maintain eye contact no matter how much I stutter during my speech.	7.4	28.7	21.3	32.4	10.2
19	I talk all I want and all I can regardless of my speech and non-speech behaviours.	11.1	39.8	23.1	22.2	3.7
20	I usually do negative practice in isolation, and that helps me a lot.	8.3	32.4	27.8	21.3	10.2
21	I used a few electronic devices and found them helpful.	8.3	23.1	13.9	26.9	27.8
22	I have made a practice schedule for improving my speech.	10.2	45.4	15.7	22.2	6.5
23	Talking slowly and deliberately helps me in speaking with friends and strangers.	18.5	49.1	18.5	8.3	5.6
24	I usually click by finger when I speak with others.	9.3	39.8	25.9	18.5	6.5
25	When I sing or speak in rhythm, I usually don't stutter.	23.1	37	18.5	13.9	7.4

Discussion

Different types of therapeutic strategies have been studied, to see which strategy helps stutters more. It has been seen that relapse rate was quite high in those patients who had fluency shaping treatment methods but those who had been taken stuttering modification technique along with self-help groups, were having lower relapse rate. They also had positive self-beliefs and higher satisfaction level because of their treatment plan, and this satisfaction was actually the reason of lower relapse rate in these patients [11].

In a research, stutters were observed quarterly during the year. Observations were made to see the effects of concentrated treatment plans on adult stutterers. Results showed 69% stutters were at satisfactory level of post-treatment fluency, and only 7% were maintaining a point that was just satisfactory. 80% stutters had their fluency near to normal after one year of treatment. In present research, it has been proved too, that there is correlation between the awareness of stuttering and the treatment they have been receiving. The more satisfaction individual has in therapy plan, the better and early results will be shown [12].

Self-help therapy books for stuttering, cassettes and other extra resources are usually not scientific, but sometimes they have many unyielding compensations and benefits. They have been helping many people to change their habits and also personality traits that are causing problems in their fluency as well as in intelligibility of speech. Many individuals who think that they have some problems that must need to be resolve follow such material, even without the guidance of any therapist. Although without guidance, such material is helping the stutter, but if they seek proper guidance provided by therapists, it would be more helpful in minimizing the problematic speech utterances and prognosis will be better. Moreover, the more comforting therapeutic technique patient would have, the more earlier and better prognosis he would get [13].

Internet has been used widely to help and guide individuals with emotional, anxiety, depression and stuttering problems. Self-help resources have been given, that are available online, all the time and all protocols and methodologies are given. It has been common practice these days that stutters go online and study all relevant material and use and apply them as a self-help therapy. Although it is common practice these days but ethically it is wrong to practice and apply these techniques without any recommendations.

Although with proper guidance and with the help of a therapist, self-help therapy plans has better prognosis rate than other therapeutic techniques [14]. There have been researches discussing which method of treatment is more beneficial for the long term benefit of stuttering. Many reports that symptom reduction treatment is beneficial in all cases but there is an incidence that claims prolongation and airflow techniques are more beneficial. Other claims that self-help therapy is more beneficial and long lasting prognosis has also been reported in self-help therapy.

Research has shown that most patient who has awareness of their problem, feel ease in applying self-help therapeutic strategies and these are helping them more than traditional treatment plan of stuttering [15]. Psychotherapy or speech therapy, both focuses on the concept that there is no single criteria which can be employed to treat the speech problems of stutter. Individual differences are considered to choose the therapeutic plan. Although few things are considered as common, that includes self-judgment, individual's self interest in treatment, comfort level in application of treatment plan and techniques of self-therapies which he think will work for him the best. Self-therapy techniques are being taught by psycho therapists and also by speech therapists, to guide the patient to choose among them the best he think is for him. Then results are being observed and analyzed by observing changes in personality and changes in speech pattern of the individual [16].

The substitution of stuttering with normal speech pattern needs more than accomplishment of fluency. Supplementary mechanism that seems essential and adequate for shaping of normal speech stream comprises rate of speech, breath stream management, prosody, and self-confidence.

The perfect program for adult stutterers is not possible to fit absolutely within operant concepts, motor-linguistic concepts, or psychotherapeutic concepts. It includes all three concepts along with self-help skills in all situations. Self-help skills helps individual with stuttering not only in these situations but in every situation they have to face in daily routine life [17].

Conclusion

The study was conducted to see the level of awareness of stuttering and level of awareness of self-therapy among stutters, and to see the co relation between two of them. Results show that there is significant correlation between Understanding regarding the problem of stuttering and awareness of self-therapy for stuttering. There is significant effectiveness found of understanding regarding the problem of Stuttering on Awareness of Self therapy for Stuttering.

Study has contributed to the literature by adding the evidence that self-therapeutic techniques for adult stutters really helps them a lot in coping with their speech problems. This proofs that awareness regarding one's own speech problem enables him to search out for its coping strategies and when adult stutter finds a technique helpful for him, he uses it to make his speech clear and intelligible.

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