

## **Effectiveness of Treatment Approaches Based on Articulation Therapy to Reduction Degree of speech Disorders**

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### **Abstract**

*The study was conducted in Zalengie city during academic year 2013-2014. Objectives: to verify the effectiveness of the treatment program in reducing speech disorder, and to identify the prevalence of speech disorder among basic school pupils in Zalengei- Sudan. Method: The researcher used descriptive statistic methods. Questioner technique is used as method of data collection beside speech therapy program. Study group included 130 children with speech disorders from basic School, 40 pupils were selected randomly as study group sample. The data was analyzed by using SPSS program. Results: the prevalence of speech disorders among basic pupils is (8%), the treatment program application to reduce the degree of some speech disorder is effectiveness ( $p < 0.05$ ), the high responses to treatment program is stuttering. Conclusion: In this study, the researcher found that we can treatment and reduced the speech disorders by using treatment programs approaches.*

**Keywords:** *Speech disorder, Speech Therapy, Articulation Therapy*

### **1.0 INTRODUCTION**

Speech disorders refer to several conditions in which a person has problems creating or forming the speech sound needed to communicate with others. There are three common speech disorders are stuttering, blocking and cluttering. Milder forms of speech disorders may disappear on their own, speech therapy may help with more severe symptoms or speech problems that do not improve. In therapy, the child will learn how to create certain sound. The prognosis depends on the disorder. Usually speech can be improved with speech therapy. Prognosis improves with early intervention, (Ambrose, 1999).

Intellectual disability and hearing loss make children more likely to develop speech disorders. At-risk infants should be referred to an audiological and speech therapy can be started if necessary. As young children begin to speak, some disfluency is common. Children lack a large vocabulary and have difficulty expressing themselves. This result in broken speech. If you place excessive attention on the disfluency, a stuttering pattern may develop. The best way to prevent stuttering, therefore, is to avoid paying too much attention to the disfluency (Battersone, 1986).

Mild speech disorders may not require any treatment. Some speech disorders may simply go away on their own. However, speech disorders that do not improve on their own may be helped with speech therapy. Treatment can vary and depends on the type of disorder. In speech therapy, a professional therapist will guide you through exercises that work to strengthen the muscles in the face and throat. You will also learn to control your breathing exercises and how to control breathing helps to improve the ways your words sound. You will also learn ways to practice smoother, more fluent speech. Some people suffer with nervousness or depression caused by embarrassment from a speech disorder. Talk therapy may be helpful in these situations. In talk therapy, a mental healthcare specialist will discuss ways to improve your outlook of the condition. If your depression is severe, antidepressant medication can be prescribed to help (American Speech Language Hearing Association, 2012).

Speech-language therapy is designed to coordinate the mechanics of speech with the meaning and social use of language. Such a program begins with an individual evaluation by a speech-language pathologist to assess an individual's verbal aptitudes and challenges. From this evaluation, the pathologist sets goals that may include mastering spoken language and/or learning nonverbal communication skills such as signs or gestures. In each case, the goal is to help the person communicate in more useful and functional ways. The speech language pathologist can provide therapy one-on-one, in a small group or in a classroom setting. Therapists who work with children have additional specialized training (Battersone, 1986).

Early intervention is very important for children with communication disorders. Treatment is the most effective the earlier it is, with preschool or earlier preferred. These years are a critical period of normal language learning, and strong speech habits have not yet been formed. The early skills needed for normal speech and language development can be tested even in infants. At that age, the speech-language pathologist works with the parents on stimulating speech and language development in the home. Active treatment in the form of individual therapy is usually begun between the ages of 2 and 4. If there is a concern about the child's communication skills at any age, this should first be discussed with the child's doctor. The doctor will likely refer the child to a speech-language pathologist for evaluation and treatment.

### **1.1 Literate reviews:**

There are many studies conducted to assessment of speech therapy to reduced language impairment. Study of Ulrich, Dieter & et al (2014), conducted study about assessment of Early childhood education with integrated speech therapy for children with significant Language Impairment in Germany, they found that kindergartens and primary schools which support curriculum-integrated language-/speech therapy and allow for different personality traits appear to improve long-term development and academic outcome of children with language-/speech impairment or delay. Study conducted by (Lousada & et al 2014) about the effectiveness of two treatment approaches (phonological therapy and articulation therapy), they found that intelligibility measures were sensitive enough to show changes in the phonological therapy group but not in the articulation therapy group. These findings emphasize the importance of using intelligibility as an outcome measure to complement the results obtained with other severity measures when exploring the effectiveness of speech interventions. This study presents new evidence for the effectiveness of phonological therapy in improving intelligibility with children with SSD.

Some studies try to evaluate effectiveness of voice and communication therapy, Hancock, & et al (2012) found that the reader will be able to recognize common aspects of transgender voice and communication therapy provided by a speech-language pathologist. The reader will also be able to explain the effectiveness of therapy provided to an adolescent speaker. Beilby, Janet & et al (2012) conducted study about acceptance and commitment therapy for adults who stutter, they revealed that therapeutic gains were successfully maintained over time, these findings enhance the understanding of the impact of stuttering on psychological wellbeing and offer a new perspective on what might constitute successful stuttering treatment. Study of (Gabel, & et al, 2013) conducted to describe the characteristics and effectiveness of a telepractice speech-language therapy program for school-age children. The findings suggest many similarities between the characteristics of the telepractice and direct, in-person service delivery models. The telepractice service delivery model was effective for most students included in the study. Results of this study support the described telepractice service delivery model as a viable option for speech-language therapy services delivered to public school students with communication impairments.

Although some studies have explored the adult therapeutic relationship in speech-language pathology, few, if any, have examined it with regard to children. This study aimed to explore the therapeutic relationship in paediatric speech and language therapy, focusing on the child's experience. The children described their experiences of therapy, which included the following themes: "the SLP as source of play and fun," "power

differentials," "trust," "routines and rituals," "role confusion," and "the physical characteristics of the speech-language pathologist." Some children did not understand the therapist's role or the purpose of speech-language therapy. The role of each stakeholder in therapy should be made explicit to the other in order to achieve a therapeutic bond through which the goals and tasks of therapy can be achieved (Fourie, & et al. 2011). Study of Irani & et al (2012) conducted to gain a deeper understanding of client perceptions of an intensive stuttering therapy program that utilizes a multi-faceted approach to therapy. They found that major themes generated from participants' transcripts included (1) the positive effects of the duration and nature of the program; (2) Speech Techniques learned; (3) Attitude change and counselling; and (4) activities related to desensitization and transfer. The participants also reported positive effects of their personal motivation and clinician attitudes. Clinical data indicated that the participants made measurable clinical gains on all measures of stuttering severity and attitude change following the intensive clinic and these changes were maintained long after the program was completed. In addition, it appears that this intensive stuttering therapy program is effective for making positive changes in behavioural measures of speech disfluencies, and attitudes. Clients reported multiple factors directly related to the program and personal factors that contributed to treatment effectiveness. Hence, future studies should explore and report on a variety of factors related to communication attitudes and overall quality of life in addition to behavioural measures of speech. Educational objectives.

Treatment of adolescents who stutter is an under-researched area that would benefit from greater attention. Study conducted by Fry, & et al (2012), aim to investigate whether an intensive treatment program for older teenagers who stutter. Findings show that this therapy program for teenagers had a significant treatment effect for the participants studied in the short- and medium-term, however longer-term data were not available for all participants.

There are many studies conducted about prevalence of speech disorders. Study conducted by Alaraifi, & et al (2014) about prevalence of speech disorders, they found that the prevalence of overall speech disorders in the studied sample was 7.5%. Voice disorders were the most common (4%), followed by articulation disorders (3%), and (0.5%) for fluency disorders. Study conducted by McKinnon (2007) found that the prevalence of students with speech disorders was estimated; specifically, 0.33% of students were identified as stuttering, 0.12% as having a voice disorder, and 1.06% as having a speech-sound disorder. There was a higher prevalence of speech disorders in males than in females. As grade level increased, the prevalence of speech disorders decreased. Study conducted by Sunderland (2004) found that the prevalence of communication disorders (speech, language, and hearing) among school-age children continues to increase, making it imperative that the classroom teacher be able to identify children in need of services. This article provides information that will enable all teachers to recognize when a child is exhibiting signs of a communication disorder, describes methods of assessment, provides classroom strategies, and identifies interventions and service delivery models typically used by communication specialists.

### **1.2 Study aims:**

The aims of study are:

- To verify the effectiveness of the treatment program designed by the researcher in reducing speech disorder.
- To know if there are differences' between male and female in responses to treatment program.
- To identify the prevalence of speech disorder among a basic school pupils in Zalingei- Sudan.
- To know if there are differences' between male and female in prevalence of speech disorder.

### **1.3 Study questions:**

To achieve this aims the researcher formed this questions:

- 1- What is the prevalence of speech disorder among basic school pupils?
- 2- What is the effectiveness of treatment program application to reduce the degree of speech disorder?
- 3- Are there differences between male and female in responses to treatment program?
- 4- What is high responses to treatment program, stuttering, blocking or cluttering?

## **2.0 Method And Tools**

### **2.1 Study design:**

Research Method: In this study, the descriptive analytic research technique was used.

Sample technic: We used the random sample method, after applied articulation assessment test about (40) selected from study group.

### **2.2 Tools Technique:**

**We used two tools as following:**

#### **2.2.1 Articulation assessment test:**

It formed by (30) item designed by the researchers, these items were distributed in two different constructs that are one word and sentences. With the objective of obtaining a trustworthy list of questions, some opinions from experts in this topic were collected. The pilot tests in a random sub-sample of the pupils with speech disorder community were made. The results were analyzed and adjustments in form and format were made. Cronbach's alpha coefficient stability was (0.89).

#### **2.2.2 Speech disorder therapy program:**

The program consisted of 2-h therapeutic sessions conducted weekly for eight consecutive weeks. It was an integrated program designed to improve: (a) psychosocial functioning, (b) readiness for therapy and change, (c) utilization of mindfulness skills and psychological flexibility, and (d) frequency of stuttering.

### **2.3 Practical Procedures:**

The principle of voluntarism was the precondition of participating in program, an explanation was prepared. The aims of the research and how the study would be carried out were clearly stated in it. In addition, program applied took place about three month, from on 23/3/2014 to 23/6/2014.

### **2.4 Study Group:**

The group formed from pupils suffering from speech disorders, that numbered about (130) male and distributed in 18 basic school.

## **3.0 Results**

When the researcher analysed the data, the results are as following:

### **3.1 Question one: What is the prevalence of speech disorder among basic school pupils?**

To answer this question the researcher used percentage and table (1) shows the prevalence of speech disorder.

Table (1) shows the prevalence of speech disorder among basic school pupils.

Syndromes	Frequency	percentage
Stuttering	21	52.5%
Blocking	13	32.5%
Cluttering	6	15%
Total	40	100%

When the researcher analyses the result, the researcher found that the prevalence of speech disorders among basic pupils is (8%), when you compare between the percentages you find that high speech disorders prevalence is stuttering with percentage (52.5%), then blocking with (32.5%) at last is cluttering with (15%).

**3.2 Question 2: What is the effectiveness of treatment program application to reduce the degree of speech disorder?**

To answer the question the researcher used in depended sample T test and table (2) shows the effectiveness of treatment program application to reduce the degree of some speech disorder.

Table (2) shows the effectiveness of treatment program application to reduce the degree of some speech disorder

Measure	Mean	S.D	T	SIG	Result
Before therapy program application	22.35	10.369	16.05	0.006	significant
After counselling program application	5.58	4.082			

S.D = Standard deviation; T= T value; SIG = sigma value.

When the researcher compare between means of measurement type. He found that the mean of before therapy program application (22.35) was greater than mean of after counseling program application (5.58), this differences is significant at level (0.05), because the SIG (0.006) less than (0.05). This means that the treatment program application to reduce the degree of some speech disorder is effectiveness.

**3.3 Question 3: Are there differences between male and female in responses to treatment program?**

To answer the question the researcher used in depended sample T test and table (3) shows differences between male and female in responses to treatment program.

Table (3) shows differences between male and female in responses to treatment program.

Gender	Mean	S.D	T	SIG	Result
Male	5.86	9.369	7.05	0.02	Significant
Female	3.36	3.082			

S.D = Standard deviation; T= T value; SIG = sigma value.

When the researcher compare between means of male and female in the pretest. I found that the mean of male (5.86) was greater than mean of female (3.36), this differences is significant at level (0.05), because the SIG (0.02) less than (0.05). This means that the female responses is better than male responses.

**3.4 Question 4: What is high responses to treatment program, stuttering, blocking or cluttering?**

To answer this question we used the means as in table (4).

Table (4) shows the responses of speech disorders syndromes to treatment program.

Speech disorders syndromes	Pre-Mean	Post-Mean	differences'
Stuttering	9.6	2.5	7.1



Blocking	8.3	3.6	4.7
Cluttering	7.6	4.7	2.9

When I compare between the means of speech disorders syndromes, I found that that the differences' between pre –Mean and Post-Mean is greater in stuttering (7.1) then blocking (4.7) and cluttering (2.9), this means that the high responses to treatment program is stuttering.

#### 4.0 Discussion

When the researcher analysed the data, the study revealed that the prevalence of speech disorders among basic pupils is (8%), this result in line with study of Alaraifi, & et al (2014), they found that the prevalence of overall speech disorders in the studied sample was 7.5%. Study conducted by McKinnon (2007) found that the prevalence of students with speech disorders was estimated; specifically, 0.33% of students were identified as stuttering, 0.12% as having a voice disorder, and 1.06% as having a speech-sound disorder. There was a higher prevalence of speech disorders in males than in females. As grade level increased, the prevalence of speech disorders decreased. Study conducted by Sunderland (2004) found that the prevalence of communication disorders (speech, language, and hearing) among school-age children continues to increase, making it imperative that the classroom teacher be able to identify children in need of services. The researcher pointed that the reason of prevalence of speech disorder in study area is bilingualism, and multilingualism is one of causes of speech disorders, in addition the condition of the war and displacement.

In addition, the study revealed that the effectiveness of treatment program application to reduce the degree of speech disorder is positive; this result is in line with study of Lousada & et al (2014). This study presents new evidence for the effectiveness of phonological therapy in improving intelligibility with children with SSD. Hancock, & et al (2012) found that the reader will be able to recognize common aspects of transgender voice and communication therapy provided by a speech-language pathologist. The reader will also be able to explain the effectiveness of therapy provided to an adolescent speaker. Beilby, Janet & et al (2012), they revealed that therapeutic gains were successfully maintained over time. Study of (Gabel, & et al, 2013). Results of this study support the described telepractice service delivery model as a viable option for speech-language therapy services delivered to public school students with communication impairments. Study of Irani & et al (2012). The participants reported positive effects of their personal motivation and clinician attitudes. Study conducted by Fry, & et al (2012), Findings show that this therapy program for teenagers had a significant treatment effect for the participants studied in the short- and medium-term, however longer-term data were not available for all participants.

The result show that the female responses is better than male responses, the researcher pointed that the reason of this result is the variation in child-directed speech between male and female groups, such as the female have larger colour vocabularies than do male, female tend to give verbal responses to their interlocutor’s statements and give compline, In the communication process, female frequently use some complimentary words to express approval and admiration such as “adorable”, “charming”, and “divine”, etc. These words are expected in female speech, but not generally in male.

Finally, the study revealed that the high responses to treatment program is stuttering. The reason of these all-stuttering cases have early intervention, so that is early intervention very important for children with communication disorders. In addition, treatment can vary and depends on the type of disorder.

#### Conclusions

Speech disorders as type of disability had growth in last century, it became a big problems faced the parents and teachers in home and school, so that the researcher conducted this study to verify the effectiveness of the treatment program in reducing speech disorder, The results of this study are that the treatment program

application to reduce the degree of some speech disorder is effectiveness, the high responses to treatment program is stuttering

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