

Intervention Adult Stuttering Cases with Fluency Shaping Method: A Single Case Study

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Abstract

Background: A stutture's ability to produce speech fluently indicates of the success of a stuttering intervention. There is still little research related to the transfer of fluency to everyday situations, which is the reason for this research.

Objective: This study measures improvements in speech fluency when reading aloud through direct intervention.

Method: using a single subject quasi-experiment, using an A1-B-A2 design, where A1 is the baseline condition that has not been given intervention, B is intervention and A2 is the condition after intervention using the Fluency Shaping method. Tests before and after therapy were given to one person who stuttered with ten therapy sessions.

Result: assessment after speech therapy intervention using the fluency shaping method for 10 sessions, showed an increase in speech fluency when reading with a reduction in the total stuttering index.

Conclusion: the client can change the behavior of non-fluent speech patterns to become fluent when reading.

Suggestion: further research is still needed to look at stuttering behavior during spontaneous speech.

Keywords: Fluency Shaping, Reading, Speech Therapy

INTRODUCTION

Stuttering is a disorder in which individual characteristics are characterized by involuntary repetition of sounds, syllables, or words, with an extension of sounds and pauses or stops with high frequency and/or duration (1) (2) (3) when speaking that affects articulation (4). Stuttering in childhood affects nearly 70 million adults (5), or about 1% of the population (6) (7). Developmental stuttering or also called stammering (8) as a speech motor disorder where affective, behavioral, and cognitive components can have a functional impact on daily life (9). Having stuttering can negatively impact one's life with stuttering. Several studies have found an increased risk of anxiety, especially during social interaction communication in adults with stuttering (1) (10). The results of Boyle and Cheyne pointed out that the majority of people with stuttering experience discrimination from their environment, so they tend to experience a decrease in quality of life (11). Smooth formation (fluency shaping) is a method of speech restructuring that requires individuals to change their speech behavior (12). Technique Fluency shaping Improves speech fluency in stutterers (13) which is a direct intervention with the aim of reducing the severity and frequency of stuttering speech behavior in an effort to establish fluency (14). Although stuttering is classified as a speech disorder, an increase in stuttering in syntactic guided sentences suggests possible difficulties in the linguistic component (7). In people with stuttering, reading tasks show lower fluency than spontaneous speech or retelling (15).

METHOD

Research using a qualitative approach to experimental design pretest-posttest design, with a single subject research (Single Subject Research). Single Subject Research is an experimental study designed to test behavior and evaluate interventions on subject behavior through repeated assessments

over a specified period of time (16). The results of the variable assessment will be compared on the condition before the intervention with the condition after the intervention.

Researchers assessed the number of major stuttering behaviors that occur when reading a reading consisting of 120 words. Intervention in the form of speech therapy with the fluency shaping method was given as many as 10 sessions with a duration of 30 minutes each session.

PARTICIPANTS

The subject of the study was MDF, a 25-year-old male. The research subjects were selected using the purposive sampling technique. The criteria for the study subjects were stuttering when speaking and complaints about their inability to speak. The instruments used to obtain the collected data were obtained through interviews, observations, and tests.

CASE DESCRIPTION

MDF, a 25-year-old male, complained of slurred speech. Speech disorders have occurred since elementary school grade 3. There is a history of imitating the speech style of parents (fathers) who are fast. There is no history of speech disorders in the family. Experiencing psychological pressure due to discrimination from the environment, especially friends. After completing their studies in college, there began to be an attempt to no longer avoid certain situations that triggered their deterioration speech fluency, such as talking to new acquaintances, group situations, and speaking faster. The observation results showed that there were many repetitions of syllables and words, stops, and extensions when the bicaara was spontaneous. There are secondary symptoms of escape behavior in the form of interjection in the form of "ee,", hand movements when stopping talking, eyes that blink more when speech is not fluent, and tension in the neck area when speaking and tremors on the lips, especially spontaneous speech. Secondary symptoms of avoidance behavior are circumlocutions and word substitutions. The examination of social relationships, feelings, and behaviors (feelings and attitudes) used the S-Scale Modification, with the results that the client looked relaxed and tried to complete the task of reading aloud, confident and not shy when stuttering occurred when speaking.

Core behavior assessments are carried out by spontaneous reading and speaking. The results of the aloud reading test of a reading consisting of 120 words, found a frequency of stuttering of 14 or 9.28% with 6 repetitions, 6 extensions and 2 stoppages. While the duration of the extension is 1 second and the termination is 2 seconds. The results of the assessment of spontaneous speech when telling a story found a total of 17 stuttering indices or 20.94% of the total 183 words uttered, with a frequency of 12 repetitions, 3 extensions, and 2 stoppages. The examination of speech speed when reading was 325 SPM, and when telling a story as many as 198 SPM.

HANDLING

A. Therapeutic goals

The intervention given to the client aims to improve the client's fluency when reading a text consisting of 120 words.

B. Therapy materials

Therapy materials are given to clients ranging from vowels, consonants, syllables, words, sentences and paragraphs (readings). Therapy will be given with a frequency of 10 times, a duration of 30 minutes per session.

C. Therapy methods

Method Fluency Shaping It is one of the strategies for shaping fluency by changing behavior when speaking so that there is a reduction in stuttering. (17). Fluency Shaping Therapy It is a combination of handling of three targets simultaneously consisting of airflow management, soft onset of phonation, and extended speech.

D. Scoring criteria

The initial test will be done before being given intervention or therapy, while the final test will be done after being given 10 interventions,

The response criteria set are to assess every core behavior that appears when reading, it will be given a value. The total number of stutters will be calculated after the client completes the

reading aloud task. The success rate is determined by subtracting the pre-therapy score (pretest) from the post-therapy (posttest), with the condition that if the reduction results reach a score of 7-10, it will be declared successful, the value of 3-6 will be declared quite successful, and the value of 0-2 will be declared unsuccessful.

RESULTS AND DISCUSSION

A. Implementation of therapy

Session 1

Core activities :

- 1) The author gives an example of a common way of breathing to achieve speech-free speech.

Response: the client notices and asks the writer if he should regulate his breath first before starting to speak.

- 2) The author asks the client to inhale through the nose a little deeper.

Response: The client makes a deep inhalation through the nose.

- 3) The author asks the client to exhale a little through the mouth and then say vowels (/a/, /i/, /u/, /e/, /o), consonants (/p/, /b/, /t/, /d/, /k/, /g/), and syllables (/pa/, /ba/, /ta/, /da/, /ka/, /ga/) slowly after starting to exhale, before the author gives an example and then asks the client to imitate.

Response: the client pays attention to the writer, then the client begins to say vowels, consonants and syllables according to the author's instructions. However, in the consonants /p/ and /b/ the client feels that there is an excess of effort when he teaches it.

- 4) The author gives an example of how to produce sound gently and roughly.

Response: The client pays attention and understands the author's explanation.

- 5) Writer Ask the client to start speaking vowels (/a/, /i/, /u/, /e/, /o), consonants (/p/, /b/, /t/, /d/, /k/, /g/), and syllables (/pa/, /ba/, /ta/, /da/, /ka/, /ga/) gently.

Response: The client pays attention to the author, then the client begins to speak vowels, consonants, and syllables slowly. The client is able to teach well the material given by the author.

- 6) The author asks the client to read aloud using the reading text that has been provided.

Response: The client reads the text slowly and calmly.

Closing Activity: Daily evaluation by calculating the stuttering index when reading.

Session 2

Core activities :

- 1) The author describes the goals and programs of therapy today.

Response: The client understands the goals and therapy program described by the author.

- 2) The author gives an example of a common way of breathing to achieve speech-free speech.

Response: The client paid attention to the example given by the author.

- 3) The author asks the client to inhale through the nose a little deeper.

Response: The client makes a deep inhalation through the nose.

- 4) Writer request The client exhales a little through the mouth and then says vowels (/a/, /i/, /u/, /e/, /o), consonants (/p/, /b/, /t/, /d/, /k/, /g/), and syllables (/pa/, /ba/, /ta/, /da/, /ka/, /ga/) slowly after starting to exhale, before the author gives an example of asking the client to imitate.

Response: the client pays attention to the writer, then the client begins to say vowels, consonants and syllables according to the author's instructions. However, in the consonants /p/ and /b/ the client still feels that there is an excess of effort when he says it.

- 5) The author gives an example of how to produce sound gently and roughly.

Response: The client pays attention and understands the author's explanation.

- 6) The writer request The client to start speaking vowels (/a/, /i/, /u/, /e/, /o), consonants (/p/, /b/, /t/, /d/, /k/, /g/), and syllables (/pa/, /ba/, /ta/, /da/, /ka/, /ga/) gently, the author first gave

an example and then asked the client to imitate it.

Response: The client pays attention to the author, then the client begins to speak vowels, consonants, and syllables slowly. The client is able to replicate correctly as exemplified by the author.

7) The author asks the client to read aloud using the reading text that has been provided.

Response: The client reads the text slowly and calmly

Closing Activity: Daily evaluation by calculating the stuttering index when reading.

Session 3

Core activities

1) The author asks the client to do an inhalation through the nose a little deeper.

Response: The client makes a deep inhalation through the nose.

2) The author asks the client to exhale a little through the mouth and then say (/hammer/, /ball/, /honey/, /rope/, /thorn/, /chin/) slowly after starting to exhale, before the author gives an example and then asks the client to imitate.

Response: the client pays attention to the author, then the client starts to say (/hammer/, /ball/, /honey/, /rope/, /thorn/, /chin/) according to the author's instructions. However, in the word /rope/ the client feels that there is little effort that he has to make when teaching it.

3) The author gives an example of how to produce sound gently and roughly.

Response: The client pays attention and understands the author's explanation.

4) The author asks the client to start saying the words (/hammer/, /ball/, /honey/, /rope/, /thorn/, /chin/) gently, before the author gives an example and then asks the client to imitate.

Response: The client pays attention to the writer, then the client starts to say (/hammer/, /ball/, /honey/, /rope/, /thorn/, /chin/) slowly. The client is able to replicate correctly as

exemplified by the author. However, in the word /rope/ the client feels that there is little effort that he has to make when teaching it.

- 5) The author asks the client to read aloud using the reading text that has been provided.

Response: the client reads the text slowly and calmly.

Closing Activity: The author conducts a daily evaluation by calculating the stuttering index when reading.

Session 4

Core activities

- 1) The author gives an example of a common way of breathing to achieve speech-free speech.

Response: The client paid attention to the example given by the author.

- 2) Writer request client to inhale through the nose a little deeper.

Response: the client makes a deep inhalation through the nose.

- 3) Writer request The client exhales a little through the mouth and then says the words (/hammer/, /ball/, /honey/, /rope/, /thorn/, /chin/) slowly after starting to exhale, before the author gives an example and then asks the client to imitate.

Response: the client pays attention to the author, then the client starts to say (/hammer/, /ball/, /honey/, /rope/, /thorn/, /chin/) according to the author's instructions. Clients are able to Slowly teaching all the words given by the author, the client felt that it was easier to say the word than the previous day.

- 4) The writer give An example of how to produce sound softly and roughly.

Response: The client pays attention and understands the author's explanation.

- 5) The writer request The Client to start saying words (/hammer/, /ball/, /honey/, /rope/, /thorn/, /chin/) gently, before the author gives an example and then asks the client to imitate.

Response: The client pays attention to the writer, then the client starts to say (/hammer/, /ball/, /honey/, /rope/, /thorn/, /chin/) slowly. The client was able to say all the words given by the author slowly, the client felt that it was easier to say the words than the previous day.

- 6) The author asks the client to read aloud using the reading text that has been provided.

Response: the client reads the text slowly and calmly

Closing Activity: Daily evaluation by calculating the stuttering index when reading

Session 5

Core activities

- 1) The author gives an example of a common way of breathing to achieve speech-free speech.

Response: the client pays attention to the example given by the author.

- 2) The Writer request client to inhale through the nose a little deeper.

Response: the client makes a deep inhalation through the nose.

- 3) The Writer request The client exhales a little through his mouth and then says phrases (/umbrella nails/, / light blue/, /dark night/, /long rope/, /green leaves/, /vegetable oil/) slowly after starting to exhale, before the author gives an example and then asks the client to imitate.

Response: the client paid attention to the author, then the client began to speak (/umbrella nails/, / light blue/, /dark night/, /long rope/, /green leaves/, /vegetable oil/) according to the author's instructions. However, the client feels that there is an excess of effort when he says /umbrella nails/ and /long rope/.

- 4) The writer give an example of how to produce sound softly and roughly.

Response: The client pays attention and understands the author's explanation.

- 5) The author asks the client to start saying phrases (/umbrella nails/, / light blue/, /dark

night/, /long rope/, /green leaves/, /vegetable oil/) softly, before the author gives an example and then asks the client to imitate.

Response: the client pays attention to the author, then the client starts talking (/umbrella nails/, /light blue/, /dark night/, /long rope/, /green leaves/, /vegetable oil/) slowly.

However, the client feels that there is an excess of effort when he says /umbrella nails/ and /long rope/.

- 6) The author asks the client to read aloud using the reading text that has been provided.

Response: The client reads the text slowly and calmly.

Closing Activity: Daily evaluation by calculating the stuttering index when reading.

Session 6

Core activities

- 1) The author gives an example of a common way of breathing to achieve speech-free speech.

Response: the client pays attention to the example given by the author.

- 2) The author asks the client to inhale through the nose a little deeper.

Response: the client makes a deep inhalation through the nose.

- 3) The author asks the client to exhale a little through the mouth and then say phrases (/umbrella nails/, / light blue/, /dark night/, /long rope/, /green leaves/, /vegetable oil/) slowly after starting to exhale, previously the author gives an example and then asks the client to imitate.

Response: the client paid attention to the author, then the client began to speak (/umbrella nails/, / light blue/, /dark night/, /long rope/, /green leaves/, /vegetable oil/) according to the author's instructions. Clients already find it easier to say /thumbtack/ and /long rope/.

However, the client feels that there is an excess of effort when he says /cook vegetables/.

- 4) The writer give An example of how to produce sound softly and roughly.

Response: The client pays attention and understands the author's explanation.

- 5) The author asks the client to start saying phrases (/umbrella nails/, / light blue/, /dark night/, /long rope/, /green leaves/, /vegetable oil/) softly, before the author gives an example and then asks the client to imitate.

Response: The client paid attention to the author, then the client began to speak (/umbrella nails/, / light blue/, /dark night/, /long rope/, /green leaves/, /vegetable oil/) slowly. Clients already find it easier to say /thumbtack/ and /long rope/. However, the client feels that there is an excess of effort when he says /cook vegetables/.

- 6) The author asks the client to read aloud using the reading text that has been provided.

Response: the client reads the text slowly and calmly.

Closing Activity: Daily evaluation by calculating the stuttering index while reading

Session 7

Core activities

- 1) The author gives an example of a common way of breathing to achieve speech-free speech.

Response: The client paid attention to the example given by the author.

- 2) The Writer request The client to inhale through the nose a little deeper.

Response: The client makes a deep inhalation through the nose.

- 3) The Writer request The client exhales a little through his mouth and then says phrases (/umbrella nails/, / light blue/, /dark night/, /long rope/, /green leaves/, /vegetable oil/) slowly after starting to exhale, previously the author gives an example and then asks the client to imitate.

Response: the client paid attention to the author, then the client began to speak (/umbrella nails/, / light blue/, /dark night/, /long rope/, /green leaves/, /vegetable oil/) according to

the author's instructions. Clients already find it easier to say all the material provided by the author.

- 4) The writer give An example of how to produce sound softly and roughly.

Response: The client pays attention and understands the author's explanation.

- 5) The author asks the client to start saying phrases (/umbrella nails/, / light blue/, /dark night/, /long rope/, /green leaves/,/vegetable oil/) gently, before the author gives an example and then asks the client to imitate.

Response: The client paid attention to the author, then the client began to speak (/umbrella nails/, / light blue/, /dark night/, /long rope/, /green leaves/, /vegetable oil/) slowly. Clients already find it easier to say all the material provided by the author.

- 6) The author asks the client to read aloud using the reading text that has been provided.

Response: The client reads the text slowly and calmly

Closing Activity: Daily evaluation by calculating the stuttering index while reading

Session 8

Core activities

- 1) The author gives an example of a common way of breathing to achieve speech-free speech.

Response: The client paid attention to the example given by the author.

- 2) The author asks the client to inhale through the nose a little deeper.

Response: The client makes a deep inhalation through the nose.

- 3) The Writer request The client exhales a little through his mouth and then says a sentence (/sister reading a book/, /brother sweeping the house/, /mother washing clothes/, /father wears Clothes/, /Grandma Sew Pants/) slowly after starting to exhale, previously the author gave an example and then asked the client to imitate.

Response: the client pays attention to the author, then the client starts to say (/sister reading a book/, /brother sweeping the house/, /mother washing clothes/, /father wears clothes/, /grandmother sewing pants/) according to the author's instructions. The client is able to say every sentence given by the author. However, the client feels that there is more effort when he says /brother sweeps the house/.

- 4) The author gives an example of how to produce sound gently and roughly.

Response: the client pays attention to and understands the author's explanation.

- 5) The author asks the client to start saying phrases (/umbrella nails/, / light blue/, /dark night/, /long rope/, /green leaves/, /vegetable oil/) softly, before the author gives an example and then asks the client to imitate.

Response: the client pays attention to the author, then the client starts to speak (/umbrella nails/, / light blue/, /dark night/, /long rope/, /green leaves/, /vegetable oil/) slowly. The client is able to say every sentence given by the author. However, the client feels that there is more effort when he says /brother sweeps the house/.

- 6) The author asks the client to read aloud using the reading text that has been provided.

Response: The client reads the text slowly and calmly

Closing Activity: Daily evaluation by calculating the stuttering index while reading

Session 9

Core activities

- 1) The author gives an example of a common way of breathing to achieve speech-free speech.

Response: the client pays attention to the example given by the author.

- 2) The author asks the client to do inhalasi through the nose a little deeper.

Response: the client makes a deep inhalation through the nose.

- 3) The author asks the client to exhale a little through the mouth and then say the sentences

(/sister reading a book/, /brother sweeping the house/, /mother washing clothes/, /father wearing clothes/, /grandmother sewing pants/) slowly after starting to exhale, previously the author gave an example and then asked the client to imitate.

Response: the client paid attention to the author, then the client began to say (/sister reading a book/, /brother sweeping the house/, /mother washing clothes/, /father wearing clothes/, /grandmother sewing pants/) according to the author's instructions. The client feels that it is easier to say every sentence given by the author.

- 4) The author gives an example of how to produce sound gently and violently

Response: The client pays attention and understands the author's explanation.

- 5) The author asks the client to start saying phrases (/umbrella nails/, / light blue/, /dark night/, /long rope/, /green leaves/, /vegetable oil/) gently, before the author gives an example and then asks the client to imitate. Response: The client paid attention to the author, then the client began to speak (/umbrella nails/, / light blue/, /dark night/, /long rope/, /green leaves/, /vegetable oil/) slowly. The client feels that it is easier to say every sentence given by the author.

- 6) The author asks the client to read aloud using the reading text that has been provided.

Response: The client reads the text slowly and calmly

Closing Activity: Daily evaluation by calculating the stuttering index while reading

Session 10

Core activities

- 1) The author gives an example of a common way of breathing to achieve speech-free speech.

Response: The client paid attention to the example given by the author.

- 2) The writer asking the client to inhale through the nose a little deeper.

Response: The client makes a deep inhalation through the nose.

3) The writer Ask the client to exhale a little through the mouth and then say the sentence (/sister reading a book/, /brother sweeping the house/, /mother washing clothes/, /father wearing clothes/, /grandmother sewing pants/) slowly after starting to exhale, previously the author gave an example and then asked the client to imitate.

Response: the client paid attention to the author, then the client began to speak (/sister reading a book/, /brother sweeping the house/, /mother washing clothes/, /father wearing clothes/, /grandmother sewing pants/) according to the author's instructions. The client feels that it is easier to say every sentence given by the author.

4) The author gives an example of how to produce sound gently and roughly. Response: The client pays attention and understands the author's explanation.

5) The author asks the client to start saying phrases (/umbrella nails/, / light blue/, /dark night/, /long rope/, /green leaves/, /vegetable oil/) softly, before the author gives an example and then asks the client to imitate. Response: The client paid attention to the author, then the client began to speak (/umbrella nails/, / light blue/, /dark night/, /long rope/, /green leaves/, /vegetable oil/) slowly. The client feels that it is easier to say every sentence given by the author.

6) The author asks the client to read aloud using the reading text that has been provided.

Response: The client reads the text slowly and calmly.

Closing Activity: Daily evaluation by calculating the stuttering index while reading.

B. Evaluation

After 10 times of therapy, a final test was carried out. The results of the comparison of the initial test and the final test are as shown in table 1.

Table 1. Comparison of Stuttering Frequency when Reading

Symptoms of Stuttering	Test Awal (pretest)	Final Test (posttest)
	Frequency	
Repetition	4	3
Extension	2	0
Termination	5	4
Sum	11	7
Total Stuttering Index	9,16%	5,83%

From the test results after therapy, there was an increase in speech fluency when reading. This is seen from the reduced frequency of stuttering when the client reads. According to Galitzer, improving speech fluency through *Fluency Shaping* more effective in handling cases of stuttering (18). This is in accordance with the results of the research of Heuler et al. which stated that the handling of stuttering with the formation of smoothness (*Fluency Shaping*) showed better results compared to breathing exercises or non-specific logopedic approaches (19). However, the approach *Fluency Shaping* will be more effective when combined with a stuttering modification approach (19). Reading aloud is used instead of spontaneous speech is an easier way to control the speed of speech. This is according to the results of Pinto et.al's research which states that there are more speech disorders when speaking spontaneously compared to reading aloud (20) Stuttering management will be more effective given with an intensive time schedule and through group session therapy (18) (19).

CONCLUSION

There is an increase in speech fluency when reading, and intervention has been given through *the Fluency Shaping method*. This can be seen from the reduction in the frequency of stuttering when the client reads after being given therapy 10 times.

SUGGESTION

Further research is still needed to determine the fluency of speech in spontaneous speech.

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