

## RESEARCH ARTICLE

# THE COMPARISON OF EASY ONSET AND PANTOMIMING TREATMENT ON BLOCKING IN STAMMERING

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**ABSTRACT**

**Background:** Stammering is a speech fluency disorder categorized by repetitions, prolongations and blocks that interrupt the normal flow and forward movement of speech. The Fluency shaping techniques including Easy Onset and Pantomiming treatment are commonly used techniques for the management of stuttering. **Objective:** To compare the effectiveness of Pantomiming and easy onset method for the treatment of blocks in stammering in school aged children. **Material & Method:** A randomized control trial (NCT04813588) was conducted in hospitals of Rawalpindi and Islamabad. The Convenient sampling technique was used for data collection from National Institute of Rehabilitation Medicine (NIRM). The sample size was n=16, randomly divided in Easy onset (n=8) and Pantomiming (n=8) through lottery method. The schools going children and adolescent between 6-18 years of both genders with mild to moderate stammering with blocking symptoms were included. The severity of stuttering was assessed with real time analysis of speech fluency. The data was analysed at the baseline and after three months of intervention. The non-parametric tests were applied for within and between group analyses. **Results:** The mean age of the participants was 10.38±5.290 years. A total n=11 were males and n=5 were females. When compared both groups, there was no significant difference between Easy onset and Pantomiming technique {MR=9 vs MR=8, U=28, p=0.535} in the management of stuttering after three months of intervention. **Conclusion:** The easy onset and pantomiming techniques are equally effective in improving the blocking in stuttering.

**Keywords:** Blocks, easy onset, fluency shaping, pantomiming, speech therapy, stammering, stuttering.

**INTRODUCTION**

The speech is a complex process which involves the integrity and incorporation of various neurocognitive, neuro motor, neuromuscular and musculo-skeletal activities<sup>1</sup>. Stammering is a speech disorder categorized by repetitions, prolongations and blocks that interrupt the normal flow and forward movement of speech<sup>2</sup>. Stammering is regarded as by overt behaviors such as unintentional blocks and pauses in speech; repetitions; prolongation and covert, concealed or unobservable behaviors. This inability to control is a core and essential feature of stammering explained by many people who stutter<sup>3</sup>. Untimely the termination of sound and air is called blocks in stammering and frequently allied with discontinuing of the movement of the tongue, lips and/or vocal folds. The muscle tension and exertion is also related to blocking symptoms frequently<sup>4</sup>. In a study occurrence of linguistic and speech complications among children and its association with Demographic variables in Karachi Pakistan showed that 4.5% Fluency problems were observed<sup>5</sup>.

The stammering has adverse effects on speech production itself as well as increased anxiety levels

and avoidance of speech situations that may impact the general quality of life as the stutter grows<sup>6</sup>. it is essential to measure and calculate the severity of stuttering before, during and after any therapy<sup>7</sup>.

The variety of techniques is used to treat the stuttering with direct and some are indirect techniques including digital manipulation and fluency shaping technique<sup>8</sup>. The adults who stutter can learn to acquire the control and increase their speech fluency and speed by transforming their speaking rate and frequency. The current speech and language therapy skills can contribute to this practice by checking speaking speed and giving feedback to the person who stutter<sup>9</sup>. The Fluency shaping techniques are used to impart a new speech style that is without stammering. There is much diverse fluency shaping techniques most of them include slower rate of speech, easy onset of sounds, Prolongation, pantomiming, relaxed and deep breathing etc. The main emphasis of Fluency shaping techniques is on speech production<sup>8, 10</sup>. The therapists' help parents identify and increase factors that prompt fluency and reduce aspects that disturb fluency at home<sup>11</sup>. In prolongation is one of the most used speech reformation

managements for making fluency in PWS. In this technique PWS are taught their disfluent expressions by a new speech form<sup>8</sup>. In easy onset technique Utterer is trained to exhale slightly before the start of phonation and reach conversational loudness and volume progressively, this will help the PWS to release the block easily<sup>9,12</sup>.

Al though the frequency shaping therapy showed some significant results than some other techniques like digital manipulation thyroid cartilage<sup>8</sup>. As there are different types of independent fluency shaping, but comparison was made to determine the better option for stuttering. So, the study objective was to compare the effectiveness of Pantomiming and easy onset

method for the treatment of blocks in stammering in school aged children.

## METHODOLOGY

A randomized control Trial (NCT04813588) was conducted on n=16 school aged children and adolescents with stammering at National Institute of Rehabilitation medicine Islamabad (from February 2021 till August 2021). The study duration was 6 months after the approval of research and ethical committee of Riphah International University (Ref# Riphah/RCRS/REC 00879). A convenient sampling technique was used for data collection. A randomization was done through lottery to allot the subjects to both groups and equally divided into Easy onset (n=8) and Pantomiming (n=8) group. (Figure 1)

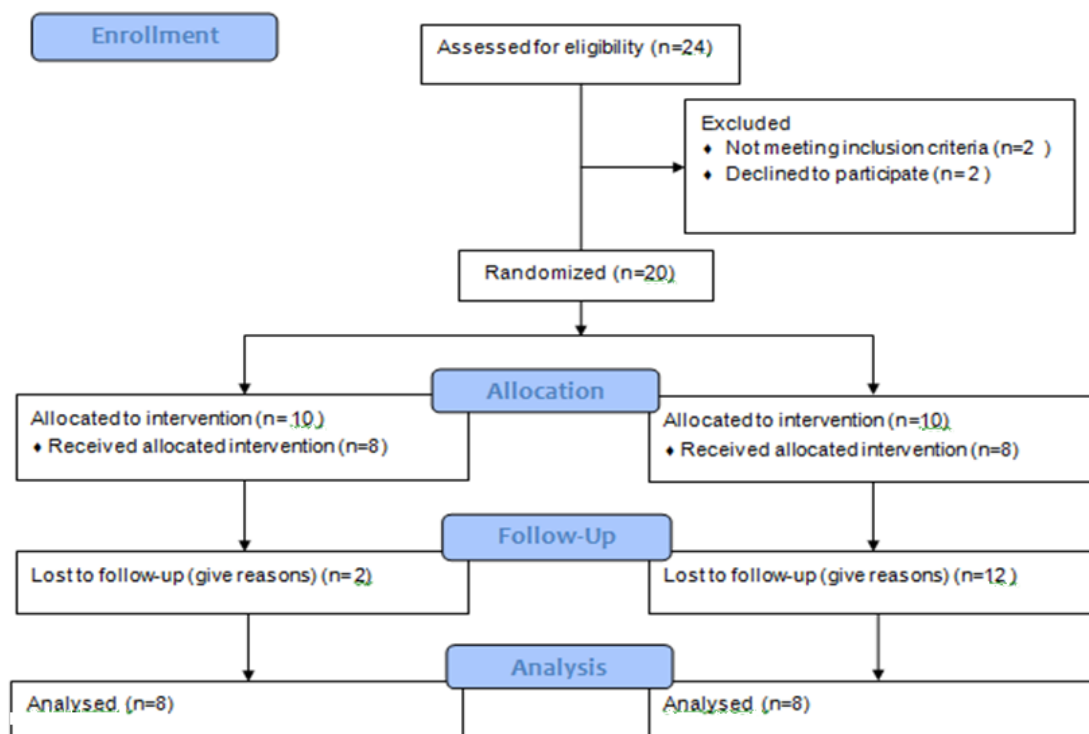


Figure 1: Consort diagram

The Real Time Analysis of Speech Fluency was used to assess the severity of stuttering. The assessment data was gathered from play base activities questions about daily routine. The procedure involves observing a speech sample and counting fluent and disfluent words (in this study speech sample was videotaped). The Step 1 clients' speech was observed for a few minutes to become familiar with the general speaking style and pattern of

disfluencies in the speech. Step 2 was to begin coding speech with a dot (.) or dash (-) for fluent words and an (x) or coding symbol for disfluent words and gather the sample of 300 syllables. Calculator was used to find the severity of stuttering; total stutter was divided by the total number of syllables. So, the Percentage of syllables stutter was calculated. According to the tool 3-8 % syllable stuttered, is considered as mild stuttering

and 8-15% syllable stutter will be consider as moderate stutters.

In *Easy onset treatment (Group A)* technique the utterer was trained to start out with a quite sigh. It produced a “hhh” sound without the sound has turned on. He was also trained to slowly produce “h” sound before the vowel and vowel was stretched out at this stage and then utterer was trained to produce a range of vowel with easy onset e.g. ay,ah,ee.

In *Pantomiming treatment (Group B)*, In this technique utterer was trained to articulate without phonation. Both groups received 30 minutes session, three times a week for three months. The data was analysed at the baseline and at the end three months intervention.

The descriptive statistics was used to present the data, including mean±Sd, n(%). As the assumptions of parametric test were not met, for with-in group analysis Wilcoxon signed rank test and for comparison Mann Whitney U-test was used. The  $\alpha$  level set at  $p<0.05$  and SPSS ver. 20 was used for data analysis.

## RESULTS

The mean age of study participants was 10.13±5.29 years. A total of n=11 participants were male and n=5 was female.

Both the easy onset and pantomiming {MR=3.50 Vs MR=2.50,  $Z=-2$ ,  $p=0.04$ } technique showed significant reduction in severity of stuttering.

**Table 1: Changes in Severity of stuttering (pre & post)**

	Assessment	Median (IQR)	Mean Rank	Z score	p-value
Easy onset (Group A)	Pre	1.5(1.00)	3.50	-2.449 <sup>b</sup>	.014*
	Post	1(.75)			
Pantomiming (Group B)	Pre	1(1.00)	2.50	-2.000 <sup>b</sup>	.046*
	Post	1(.00)			

Significance level:  $p<0.05^*$ ,  $p<0.01^{**}$ ,  $p<0.001^{***}$

While comparing both groups, no significant difference between Easy onset and Pantomiming technique {MR=9 ver MR=8,  $U=28$ ,  $p=0.535$ } in the

management of stuttering after three months of intervention. (Table 2)

**Table 2: Mann Whitney Test (Comparison of techniques between groups)**

Assessment	Groups	Median (IQR)	Mean Rank	U-stats	p-value
Pre	Easy onset (Group A)	1.5(1.00)	9	28	0.626
	Pantomiming (Group B)	1(1.00)	8		
Post	Easy onset (Group A)	1(.75)	8	28	0.535
	Pantomiming (Group B)	1(.00)	9		

Significance level:  $p<0.05^*$ ,  $p<0.01^{**}$ ,  $p<0.001^{***}$

## DISCUSSION

The objective of the study was to compare the Pantomiming and easy onset technique on blocking in stammering. The stuttering is possibly in the form of repetitions, prolongations or abnormal stoppages of sounds and syllables<sup>13</sup>. The review of the literature suggested that both techniques are helpful in decreases stammering. However, most of the studies are focused on effectiveness of single technique rather than their comparison<sup>8, 9, 10</sup>.

The easy onset used in fluency shaping program. In the present study, the easy onset was applied to group A and pantomiming was applied to group B. With-in group analysis of both groups showed significant improvement in stuttering severity. In a comparative study, easy onset and stuttering modification techniques were compared which

showed clinically significant improvement in stuttering severity and attitude change of the clients<sup>14</sup>. Another study conducted where the stuttering participants were examined who stutter on initial syllables by introducing pantomiming, silent reading, and redacted speech conditions. The result showed approximately 100% reduction of severity during silent articulation in pantomime speech<sup>15</sup>. The Easy onset can be assisted by aspirating speech sound at the beginning of phrases and accompanying them with slight puff of air/h/. It helps because during the production of /h/ sound vocal folds are nearly fully abducted it reduces the any hard attack as vocal folds come together more gently<sup>16</sup>. Similarly in the Pantomiming technique low exhalation with no perceivable sound reduces the excess pressure on laryngeal area<sup>17</sup>.

As both interventions improved the severity of stuttering, the results do not suggest any difference between the groups regarding effectiveness of intervention in reducing severity. In a similar study, fluency shaping techniques were suggested as an effective technique for people with stuttering. By employing gentle contact of articulators, slow and prolonged speed of speech, extending and exaggerating all syllables in expression, and easy and light beginning of phonation, were proved to be effective in reducing stuttering severity<sup>18</sup>.

The present study results showed the comparison of Easy onset and Pantomiming treatment on blocking in stammering. However, the study results were limited due to limited time, small sample size and age range, and sample was collected only from one hospitals of Islamabad, which is not the representative of the whole Pakistani population.

## CONCLUSION

The results revealed that easy onset and pantomiming techniques are both equally effective in reducing severity of blocking in stuttering among school going children and adolescents. It is recommended that future studies should be conducted multicentre study with larger sample size and considering the confounding variable like age, gender, and mental health.

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