

***Efficacy of Coordinated Respiration
and Articulation Technique in
Rehabilitation of Stuttering***
*A thesis Submitted for Partial Fulfillment of MD Degree
in Phoniatics*

Presented By

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Abstract

Efficacy has been defined as the extent to which a specific intervention, procedure, regimen, or service produces a beneficial result under ideally controlled conditions when administered or monitored by experts. Stuttering is one of the commonest speech disorders that is difficult to be treated. Subjects and methods: In this study a sample of 80 Arabic speakers, aged between 3-35 years, who stutter were included. They were divided into two equal groups, one was treated by technique of coordinated respiration and articulation and the other group was treated by Van riper method. The study considered key determinants of efficacy as measurement, treatment integrity, and design issues. A set of criteria is given and a meta-analysis of whether the technique of coordinated respiration and articulation is effective in treatment of stuttering in comparison with stuttering modification therapy (Van riper method). Assessments of stuttering include: the degree of severity assessment, Bloodstein's developmental phases and the stuttering severity instrument. Results revealed significant difference between the two methods of therapy. Conclusion: coordinated respiration and articulation technique is more effective than Van riper method in treatment of stuttering.

Keywords: Stuttering, Van riper method, fluency shaping, stuttering modification, Bloodstein's phases, stuttering severity index.

قال الله تعالى:

" و من يتق الله يجعل له مخرجاً و يرزقه من

حيث لا يحتسب "

صدق الله العظيم

الآية رقم (٢) من سورة الطلاق

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إهداء إلى أعلى البشر

والديّ العزيزين

أدام الله عليهما الصحة والعافية

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List of abbreviations

DS	Developmental stuttering
PDS	Persistent developmental stuttering
PET	Positron emission tomography
AAF	Altered auditory feedback
DAF	Delayed auditory feedback
FAF	Frequency-shifted auditory feedback
MAF	Masking auditory feedback
NIDCD	National Institute of Deafness and other Communication Disorders
CWS	Children who stutter
CWNS	Children who do not stutter
PWS	People who stutter
SMA	supplementary motor area
TANs	Tonically active neurons
GABA	Gamma Amino Butyric Acid
BG	Basal ganglia
SSRI	Selective Serotonin Reuptake Inhibitor
D ₂	Dopamine receptor 2
ADHD	Attention deficit hyperactive disorders
SNc	Substantia nigra pars compacta
TMS	Transcranial magnetic stimulation
TH	Tyrosine hydroxylase
MRI	Magnetic resonance imaging
PT	Planum temporale
BA44	Broca's area
SSI	Stuttering Severity Instrument
PTA	Pure tone audiometry
MAMS	Movements, Articulation, Mandibular and Sensory awareness
SLP	Speech-language pathologist
CV	Consonant-vowel
PI	Phonation interval
RCTO	Response contingent time-out
RT	Response time
CBT	Cognitive behavioral therapy

AWS	Adults who stutter
CCBT	Computerized Cognitive Behavioral Therapy
INAS	Intelligent Noise Attention Strategy
EVAT	Effective Voice Activation Technology
BTE	Behind the ear
ITC	In the canal
CIC	Completely inside canal
CF	Comfort fit
D ₂	Dopamine receptor 2
IQ	Intelligence quotient
SSMP	Successful Stuttering Management Program
RB	Regulated breathing

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Introduction

Stuttering is a fluency disorder in which the normal flow of speech is disrupted by frequent repetitions or prolongations of speech sounds, syllables or words, or by an individual's inability to start a word. The speech disruptions may be accompanied by rapid eye blinks, tremors of the lips and/or jaw or other struggle behaviors of the face or upper body. Certain situations, such as speaking before a group of people or talking on the telephone, may make stuttering more severe, whereas other situations, such as singing or speaking alone, often improve fluency (*ASHA, 2005*).

It is estimated that over three million Americans stutter. Stuttering affects individuals of all ages, but occurs most frequently in young children between the ages of two and six who are developing language. Males are three times more likely to stutter than females. Children typically experience some speech dysfluency between the ages of 18 months and seven years. Approximately 5% of all children go through a period of stuttering that lasts for six months or more. Many of those who begin to stutter will recover by late childhood, leaving about 1% with a long-term dysfluency (*National Institute on Deafness and Other Communication Disorders [NIDCD], 2005*).

Developmental stuttering (DS) is the most common form of dysfluency. It includes all cases, with gradual onset in childhood. Persistent developmental stuttering (PDS) is DS that has not undergone spontaneous or speech-therapy induced remission. PDS may be