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قسم

نقسم باللّه العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

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بعض الوثائق الأصلية تالفة

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بالرسالة صفحات
لم ترد بالأصل

TREATMENT EFFICACY IN DYSARTHRIA

Thesis

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By

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Dedication

To My Mother

My Wife

And my lovely Daughter Aaya

List of abbreviations

UMN	Upper motor neuron
LMN	Lower motor neuron
BG	Basal ganglia
Ach	Acetyl choline
CNS	Central nervous system
PNS	Peripheral nervous system
FCP	Final common pathway
ROM	Range of motion
AMR	Alternating motion rate
SMR	Sequential motion rate
DKR	Diadokinetic rate
UUMNL	Unilateral upper motor neuron lesion
CVS	Cerebrovascular stroke
MND	Motor neuron disease
MS	Multiple Sclerosis
ALS	Amyotrophic lateral sclerosis
PLS	Primary lateral sclerosis
PSP	Primary supranuclear palsy
PMA	Progressive muscular atrophy
SMAs	Spinal muscular atrophies
WD	Willson's disease
TBI	Traumatic brain injury
BDMH	Brain damage motorly handicapped
WPM	Words per minute
VOT	Voice onset time
F0	Fundamental frequency
For. Trans.	Formant transition
VC	Vital capacity
MPT	Maximum phonation time
MFR	Mean flow rate
PQ	Phonatory quotient
SPL	Speech pressure level
P.sub	Subglottic pressure
GE	Glottal efficiency
GP	Glottal power
GR	Glottal resistance
APA	Auditory perceptual analysis
G	Grade of dysphonia
R	Roughness
B	Breathy
L	Leaky
S	Strained
TONI	Test of nonverbal intelligence
EGG	Electroglottography
H/N ratio	Harmonic to noise ratio

AM

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INTRODUCTION

Rationale of the study

It has been said that "there is no special treatment for the dysarthric disturbances of speech" [1] There is a general sense among clinician that treatment of dysarthria help patient to speak more intelligible or communicate more efficiently and that treatment benefit can extend even to peoples with chronic or degenerative conditions.[2&3&4]

These beliefs come from unpublished clinical experience, anecdotal reports, a fairly substantial numbers of well-controlled and uncontrolled case studies and studies of aggregated cases that document in response to a variety of dysarthria type.[2&5]

Olswang (1990) has made point that treatment efficacy is a broad term that can address several questions related to treatment effectiveness (Does treatment work?), treatment effect (In what way does treatment alter behaviors?) and treatment efficiency (does one treatment work better than another?). [6]

In general, it seems that more is known about the effectiveness of surgical, pharmacological and prosthetic treatment for dysarthria than about their behavioral management. There are several reasons for this. Effective medical and prosthetic approaches tend to have immediate and more rapidly dramatic effects on speech; their results are, therefore, more readily apparent and easier to measure. When they do not work, the outcome is known more rapidly, the reason of their failure may be apparent, and subsequent modification or new treatment can be applied.

Behavioral treatment takes time, experimental control often is difficult to achieve, the precise reasons for success or failure often are not readily apparent, effects are not always dramatic or stable, and the replication of the results can be difficult. (5)

Group treatment studies of dysarthria are conspicuously lacking in the literature on behavioral management. We don't know nearly as much about the effectiveness of treatment as we should. (7) This fact is disappointing and should drive effort to increase efficacy research. Kent (1994) implies that we should be making greater effort to determine the efficiency of various procedures, the degree of benefit derived from them whether one treatment approach is better than another, and whether some approaches are better for some patients than for others. (8)

Perceptual, acoustic and physiological analyses have recently proven helpful in the quantification and description of specific types of dysarthria. However, little attention has been paid to the value of an integrated perceptual, acoustic, and physiological assessment in making inferences about the nature of the intelligibility deficit, guiding treatment planning, and/or monitoring treatment effects.(9)

With improved accessibility and affordability of state-of-the-art instrumentation, clinicians can now view the disordered speech signal, as well as quantify it to provide baseline data and monitor changes over time. In addition to acoustic and perceptual methods, physiological analyses have added to our understanding of disordered speech motor control and its various patho-physiologic underpinnings.

Murdoch et al. (1997) maintain that dysarthria treatment should be based on a thorough pathophysiological assessment to determine the status of muscular impairment in each of the speech subsystems.

Physiologic assessment should be used not only to explain and quantify speech impairments but also to help parse the subsystems of speech that are disordered. [10]

Despite a sound rationale for using instrumental (acoustic or physiological) methods to supplement perceptual assessment techniques, parse speech subsystem deficits contributing to reduced intelligibility, and track the effects of interventions, instrumental analyses are not widely used in clinical evaluation and management of dysarthria [5, 11,12].

Clinical researchers have used such methodologies principally to identify correlates of specific dysarthria subtypes or to quantify and describe the speech decline associated with progressive disease processes, such as amyotrophic lateral sclerosis. [11,12] Relatively little attention has been given to the value of these instrumental techniques to monitor or assess treatment effects in individuals with dysarthria. Roy (2001) mentioned "to our knowledge, no study has deliberately combined perceptual, acoustic, or physiological evaluations to monitor or track speech improvement in dysarthria during recovery or rehabilitation." [9]

Although dysarthria is a motor disorder, other non motor factors may influence the outcome of treatment. These include age, gender, general cognitive status, language function, physical health and motivation. Kent (1994) states that many clinician have a good understand of these factors, but research literature is rather weak in that aspects, thus guidelines are needed that would allow clinician to understand the impact of these factors on treatment effectiveness.[8]