

**EFFECT OF MIME THERAPY IN PEOPLE WITH BELL'S PALSY****M. Sandhiya\*, Priya Kumari and Sofia Mcconell**

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**\*Corresponding Author****M. Sandhiya**School of Physiotherapy,  
VISTAS, Chennai, India.**ABSTRACT**

**Introduction:** Bell's palsy is an idiopathic paresis of the facial nerve (CN VII). The major cause of the Bell's palsy is mostly idiopathic, other causes are exposure to cold air, middle ear infection and dental and ENT surgeries. Mime therapy is used in this study to investigate the effect in reducing the impact of the facial paresis. Mime therapy is a non-conventional therapy whereas; electrical stimulation is a conventional therapy. The main objective of this study was to find out the effectiveness of mime therapy in treating unilateral Bell's palsy and to reduce the intake of drugs. **Methodology:** Thirty individuals affected

with unilateral Bell's palsy who were assessed by HBFSGS were participated in this study with age group of 40-65, irrespective to the gender. Mime therapy with electrical stimulation was given to the experimental group and electrical stimulation with therapeutic massage was given to the control group. **Result:** The result stated that there is statistical significant increase in the group which received mime therapy and the group which received electrical stimulation, showing 'p' value 0.0001. **Conclusion:** There is significant improvement in both the groups but the group that received mime therapy improved better compared to the group that received electrical stimulation.

**KEYWORDS:** (HBFSGS) House Brackmann facial grading system, (CN VII) seventh cranial nerve.

**INTRODUCTION**

Bell's palsy is an idiopathic, acute and unilateral or bilateral paresis of the face which may be partial or complete occurring with equal frequencies on right and left sides of the face. The major cause of Bell's palsy is idiopathic, accounting for 50% of all cases. Other few causes are exposure to cold, middle ear infection, dental and ENT surgeries and trauma. The problems faced in acute phase of Bell's palsy include difficulty in closing eye, facial

deviation to the unaffected side difficulty in drinking, eating and speaking along with psychological problems and facial appearance. The recovery time varies between individual and will depend on the extent of nerve damage.

Mime therapy, a modality of physiotherapy has been applied in the treatment of patient with facial nerve paresis in Netherlands for more than 25 years. Mime therapy is originally developed in Amsterdam in 1974 by Jan Bronk, mime actor, teacher and director of the Dutch Mime Institute with Pieter Devriese, otolaryngologist and specialized in facial nerve paralysis. Jan Bronk conceived the idea of using the principles of mime for patients suffering from either later of facial movements or uncontrolled and involuntary movements. The treatment plan was devised, consisting of series of exercise with most patients receiving individual treatment.

Mime therapy is a non-conventional method of rehabilitation for patients with facial nerve paresis of various aetiologies. Mime therapy was initially based upon the principles of mime and at a later stage also on principles of physiotherapy, aiming at rehabilitation of facial expression or in other words improved symmetry of the face. In 1980, physiotherapists were trained in mime therapy by Jan Bronk. Mime therapy consisted of breathing and relaxation exercise, therapeutic massage of face, exercise for opening and closure of eye and mouth, letter and word pronunciation, facial expression exercise.

Electrical stimulation is a modality used in patients with facial nerve paresis. The facial nerve emits electrical impulses to give muscles their tone and shape. When the facial nerve is damaged the muscles no longer receives these messages and as a result the muscles become weak and floppy. External electrical stimulation can try to mimic these electrical impulses and help restore muscle tone. Interrupted galvanic current is used to stimulate the partially innervated and de-innervated muscles. Faradic current is used to stimulate the nerve trunk of the facial nerve (CN VII).

In this study, a convenient sampling is done to investigate the effect of mime therapy in individuals suffering for unilateral Bell 's palsy.

#### **AIM OF THE STUDY**

➤ To study the effect of Mime therapy in individuals those who are affected with Bell 's palsy.

**Need of the Study**

- To avoid the intake of more medications
- To evaluate the effectiveness of mime therapy
- To evaluate the usefulness of house-Brackmann scale

**MATERIALS AND METHODS**

- **Study Design** : Experimental study
- **Study Setting** : Gokul Lab, coimbatore
- **Sample Size** : 30 subjects (15 in each group)
- **Study Duration:** 2 months

**Inclusion Criteria**

- Gender both male and female
- House-Brackmann facial grading scale (grade 4 and 5)
- Unilateral Bell's palsy
- Sub-acute Bell's palsy

**Exclusion Criteria**

- Uncooperative patients
- Facial palsy (UMN lesion)
- Permanent nerve damage
- Ramsay hunt syndrome
- Tumour

**Outcome Measure**

- House-Brackmann facial grading system
- Yanagihara 5-point nerve grading system.

**Procedure**

Participants who met the inclusion criteria and signed the consent letter were randomly assigned to one of the two groups. Pre test values were assessed. The participants were allocated into experimental group and control group. Group A was said to be experimental group and group B control group. Group A received mime therapy along with electrical stimulation and group B received therapeutic massage and electrical stimulation.

Before starting the treatment session the participants had undergone familiarization session in which the entire procedure was explained. The treatment sessions were for 2 months lasting for at least 45 minutes. Proper home advices were given. The experimental group received therapeutic massage, breathing and relaxation exercise, exercise for eye and lip opening and closure, facial expression exercise (mime), and letter and word pronunciation along with electrical stimulation. The control group received therapeutic massage and electrical stimulation. The post test values will be assessed at the end of the treatment assessed.

### Treatment Protocol

#### Group A- MIME THERAPY

- Breathing and relaxation
- Therapeutic massage of face
- Letter and word pronunciations
- Facial expressions
- Electrical stimulation

#### Group B- ELECTRIC STIMULATION

- Therapeutic massage of face
- Electrical stimulation

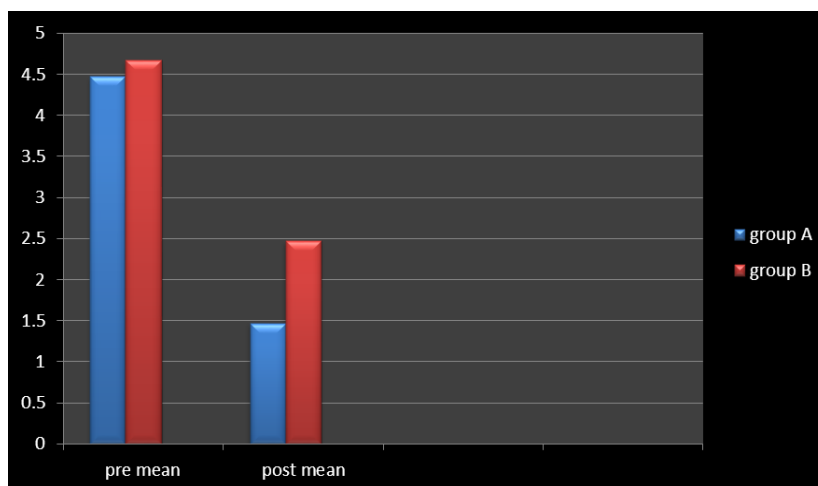
### DATA ANALYSIS

#### GROUP- A: MIME THERAPY

OUTCOME	MEAN		STANDARD DEVIATION		T-VALUE	P-VALUE
	PRE-TEST	POST-TEST	PRE-TEST	POST-TEST		
HBFGS	4.47	1.47	0.52	0.52	15.9099	0.0001

#### GROUP- B: ELECTRICAL STIMULATION

OUTCOME	MEAN		STANDARD DEVIATION		T-VALUE	P-VALUE
	PRE-TEST	POST-TEST	PRE-TEST	POST-TEST		
HBFGS	4.67	2.47	0.49	0.74	9.5835	0.0001



**Graph showing pre and post values of Group A and Group B.**

## RESULT

The above pre-test and post-test mean value tables show that both the groups had a significant improvement in reduction of facial paresis. Although improvement was seen in both the groups but group-A (mime therapy) improved better compared to group-B (electrical stimulation).

## DISCUSSION

The main goal of this research was to determine whether mime therapy would reduce the paresis in unilateral Bell's palsy individuals. In this study mime therapy was compared with electrical stimulation. The result states that mime therapy and electrical stimulation was equally significant in unilateral Bell's palsy individuals. Improvement was seen in House-Brackmann facial grading system.

Drawback of this study was the samples were not equally allocated by the HBFGS respectively and the 'p' value is [0.0001] for group A and group B because the sample size achieved in this study was thirty. If it was a large sum then the result would have been altered, this is one of the limitations in this study. The experimental group and control group were not similar to the baseline with regard to the patient's age, gender, number of weeks he/she took to recover, number of days of onset of Bell's palsy until the patient commenced with mime therapy. Age difference between 40-65 years old made difference in the study since the physiological changes occurring to their age. So the recovery stage for the individuals also differs. However the individuals rate of recovery in the experimental group

were higher than that of the control group it showed no significant difference in the 'p' value (0.0001) because of the limitations mentioned above. Hence both the groups are significant.

The advantage in mime therapy is that involves active participation of the patient. It makes the therapy session lively and reduces paresis eventually. But mime therapy cannot be applied on permanent nerve damage of the facial nerve.

In future scope of treatment, mime therapy can be applied on individuals suffering for Bell's palsy and House-Brackmann facial grading system can be used in better evaluation of Bell's palsy. As mime therapy and electrical shows positive effects on Bell's palsy.

## CONCLUSION

The study compared the effectiveness of mime therapy and electrical stimulation for group A and electrical stimulation with therapeutic massage for group B along with therapeutic massage for both the groups with unilateral Bell's palsy and it is included that paresis decreased significantly in both the groups. Hence it is concluded that group A and group B treatment protocol is effective in treating Bell's palsy. But comparatively group A improved better compared to group B.

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