ORIGINAL RESEARCH PAPER

Physiotherapy

ROLE OF KABAT TECHNIQUE ALONG WITH CONVENTIONAL PHYSIOTHERAPY TREATMENT VERSUS CONVENTIONAL PHYSIOTHERAPY ALONE IN BELL'S PALSY PATIENTS.

KEY WORDS: Bell's Palsy, Kabat Technique.

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ABSTRACT

Background: Research findings have indicated that Kabat techniques is helps in improving facial asymmetry in bell's palsy pateints.

Aim and objectives:

1. To study the effectiveness of kabat technique in improving muscle strength and reducing the facial asymmetry in patients with bell's palsy.
2. To study the effectiveness of conventional technique along with NMES in improving muscle strength and reducing the facial asymmetry in patients with bell's palsy.
3. To compare the effectiveness of kabat technique with conventional physiotherapy treatment in reducing the facial asymmetry in patients with bell's palsy.

METHODOLOGY: 30 subjects were recruited in the study and they were divided into two groups, each of 15 subjects. Group A patients were treated with kabat technique along with conventional treatment and group B were given conventional treatment alone. Treatment is given for 5 days a week for four weeks.

RESULTS AND CONCLUSION: The experimental group (group A) showed significant statistical and clinical improvement in the facial asymmetry as compared to the control group (group B). Thus, kabat technique along with conventional therapy must be incorporated as daily practice for improving facial asymmetry of patients with bell's palsy.

Introduction:

Bell's palsy is the most common disorder of the facial nerve. It is generally accepted that there is inflammation and oedema of the nerve in the facial canal. A viral aetiology is suspected. The incidence of bell's palsy is about 23/100000/year (Hauser et al. 1971). It affects both sexes equally and is less frequent in children's than adults. It shows relatively weak association with hypertension and diabetes, particularly in older patients. Recurrence in same side or opposite is relatively common. The entire course of bell's palsy may be painless but frequently patient complains of pain behind the ipsilateral ear in the mastoid region. All the muscles if affected side of the face is involved but degree of weakness may range from mild to being complete in about 70 percent of the patients.[1]

Kabat a manual resistance technique that works by simulating fundamental patterns of movement, it hastens the response of the neuromuscular mechanism through stimulation of the proprioceptors; could result in either facilitation or inhibition. It has been reported to permit improvement in function of facial muscles. It facilitates flexibility, strength and co-ordination.[2]

Barbara et al. compared clinical outcomes and ENoG values of patients affected by BP and rehabilitated with the Kabat method, showing that the better and faster recovery of an early rehabilitative protocol was independent of the nerve condition as assessed by ENoG findings.[3]

Hence this is an effort taken to compare between Kabat technique with conventional and Conventional technique alone for reducing facial disability in patients with Bell's palsy, and we tried to find out an ideal treatment protocol between kabat with conventional and conventional alone for Bell's palsy rehabilitation.

MATERIAL & METHODOLOGY:-

SAMPLE SIZE: 30 Patients

STUDY DESIGN: :-Experimental comparative study.

STUDY TECHNIQUE: Simple Random Sampling.

PLACE OF STUDY: Neurosciences Department, RNPC and AVBRH hospital.

MATERIALS USED: House brackmann scale

Couch

Electrical muscle simulator

Electrodes

OUTCOME MEASURE

- House brackmann scale

PROCEDURE:-

This study is a randomized controlled trial in the management of Bells palsy.

After initial neurological examination, the subjects who met the study criteria and agree to participate was assigned into groups. The study will be performed in Outpatient department of Ravi Nair Physiotherapy College, sawangi meghe wardha. The screening of the Bell's palsy patients was done for their eligibility to participate in this study, after obtaining written consent from the patient.

The study includes 30 patients those are allocated randomly into Group A and Group B, each comprising of 15 patients respectively. Treatment was provided for 5 times a week.

Group A (Experimental group)

This group received kabat technique with conventional physiotherapy treatment.

- **Kabat**

In Kabat rehabilitation is type of motor control rehabilitation technique based on proprioceptive neuromuscular facilitation (PNF). The therapist will facilitate the voluntary contraction of the impaired muscle by applying a global stretching then resistance to the entire muscular section and motivate action by verbal input and manual contact for example the actions like raising the eye brows, nasal flaring, closing and opening of mouth, protrusion of lips etc. When performing Kabat, 3 regional are considered: the upper (forehead and eyes), intermediate (nose), and lower (mouth). Prior to the Kabat exercises, ice stimulation will be performed to a specific muscular group, in order to increase its contractile power.

- **Conventional:**

In convention patient were treated with Electrical muscle stimulator stimulations to each individual muscle of face, mirror exercises to each muscle group and Massage. Massage can be done to improve perceptual awareness.

- Massage manipulations on the face include:

1. Effleurage
2. Finger or thumb kneading
3. Wringing
4. Hacking
5. Tapping
6. Stroking

Treatment will be given for the duration of 30 to 40 minutes for 5 days in a week for a total period of four weeks

Group B(control group):
This group received conventional treatment i.e Electrical muscle stimulation, mirror exercises and massage.

Treatment will be given for the duration of 30 minutes for 5 days in a week for a total period of four weeks

DATA ANALYSIS:
Descriptive analysis were used to report patients characteristics. The Statistical analysis was done by using descriptive and inferential statistics using chisquare test. The software used in the analysis were SPSS 22.0 version and GraphPad Prism 6.0 version and p<0.05 is considered as level of significance.

Table 1: Age wise distribution of patients

Age Group(yrs)	Group A	Group B	X2-value
20-29 yrs	5(33.33%)	4(26.67%)	2.39 P=0.49,NS
30-39 yrs	2(13.33%)	5(33.33%)	
40-49 yrs	5(33.33%)	5(33.33%)	
50-59 yrs	3(20%)	1(6.67%)	
Total	15(100%)	15(100%)	
Mean±SD	37.46±11.80	35.60±8.15	
Range	20-56	25-50	

Graph 1: Age wise distribution of patients

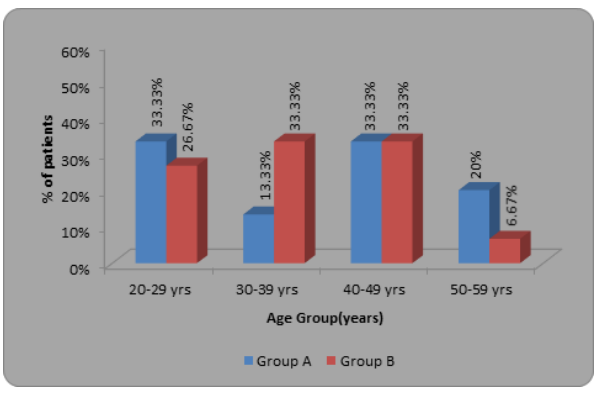


Table 2: Gender wise distribution of patients

Gender	Group A	Group B	X2-value
Male	6(40%)	9(60%)	1.20 P=0.27,NS
Female	9(60%)	6(40%)	
Total	15(100%)	15(100%)	

Graph 2: Gender wise distribution of patients

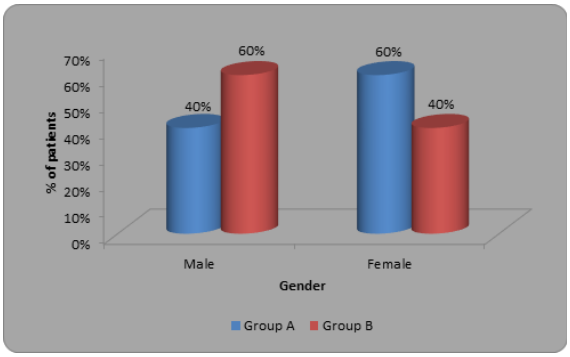


Table 3: Distribution of patients according to duration

Duration	Group A	Group B	X2-value
0-3 wks	6(40%)	0(0%)	30.00 P=0.0001,S
0-4 wks	9(60%)	0(0%)	
0-5wks	0(0%)	5(33.33%)	
0-6 wks	0(0%)	9(60%)	
>6 wks	0(0%)	1(6.67%)	
Total	15(100%)	15(100%)	

Graph 3: Distribution of patients according to duration

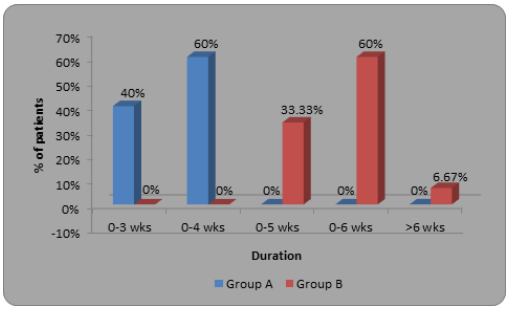


Table 4: Comparison of House Brackman Scale in group A at pre and post test

HBS	Pre Test	Post Test	X2-value
Grade I	0(0%)	4(26.67%)	21.11 P=0.0003,S
Grade II	0(0%)	7(46.67%)	
Grade III	5(33.33%)	4(26.67%)	
Grade IV	6(40%)	0(0%)	
Grade V	4(26.67%)	0(0%)	
Total	15(100%)	15(100%)	

Graph 4: Comparison of House Brackman Scale in group A at pre and post testa

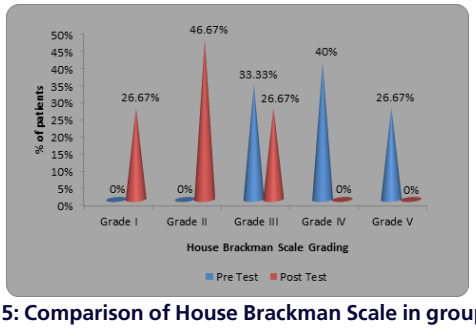


Table 5: Comparison of House Brackman Scale in group B at pre and post test

HBS	Pre Test	Post Test	X2-value
Grade I	0(0%)	4(26.67%)	24.99 P=0.0001,S
Grade II	0(0%)	9(60%)	
Grade III	5(33.33%)	2(13.33%)	
Grade IV	5(33.33%)	0(0%)	
Grade V	5(33.33%)	0(0%)	
Total	15(100%)	15(100%)	

Graph 5: Comparison of House Brackman Scale in group B at pre and post test

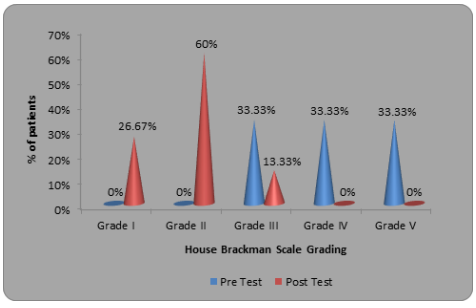


Table 6: Comparison of House Brackman Scale in two groups at pre test

HBS	Group A	Group B	X2-value
Grade I	0(0%)	0(0%)	0.20 P=0.90,NS
Grade II	0(0%)	0(0%)	
Grade III	5(33.33%)	5(33.33%)	
Grade IV	6(40%)	5(33.33%)	
Grade V	4(26.67%)	5(33.33%)	
Total	15(100%)	15(100%)	

Graph 6: Comparison of House Brackman Scale in two groups at pre test

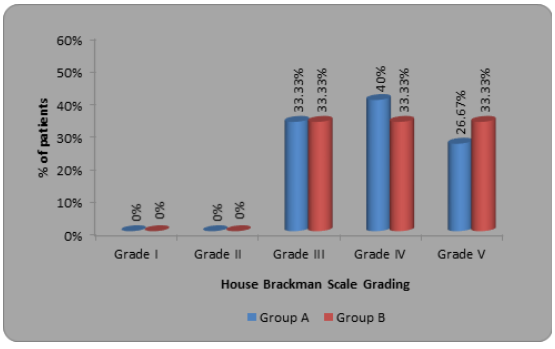
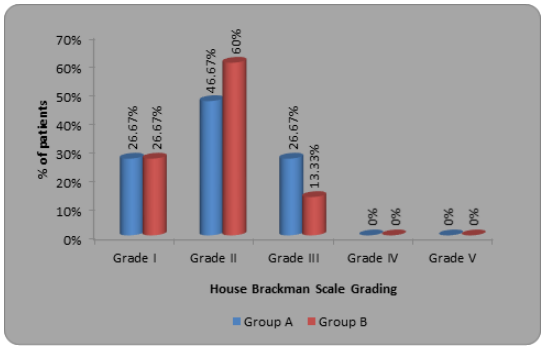


Table 7: Comparison of House Brackman Scale in two groups at post test

HBS	Group A	Group B	2-value
Grade I	9(60%)	4(26.67%)	6.47 P=0.039,S
Grade II	3(46.67%)	9(60%)	
Grade III	(26.67%)	2(13.33%)	
Grade IV	0(0%)	0(0%)	
Grade V	0(0%)	0(0%)	
Total	15(100%)	15(100%)	

Graph 7: Comparison of House Brackman Scale in two groups at post test



RESULT

Total 30 patients were taken for the study, out of which 15 were Male and 15 were Female. The mean age of patients 37.46±11.80 years in group A and 35.60±8.15 in group B(Table 1).

The study is of eight weeks, group a patients recover in 5-6 weeks while group B takes more than more than 6 weeks to recover.(Table 3).Group A participants showed significant improvement in post test scores on House Brackman Scale with mean difference being 21.11 and group B with 24.99 (Table 3-4). This study shows more significant improvement in Experimental group. Statistical analysis was done by using descriptive and inferential statistics using chisquare test and software used in the analysis were SPSS 22.0 version and Graph Pad Prism 6.0 version.

DISCUSSION

This study was conducted to compare the effectiveness of kabat technique along with conventional physiotherapy treatment versus conventional physiotherapy treatment in reducing the facial asymmetry in patients with bell's palsy. The kabat technique with conventional physiotherapy treatment demonstrated significant improvement in bell's palsy than conventional physiotherapy treatment alone.

On comparison of pre and post test of Group A and Group B it was found that there was significant improvement in facial asymmetry of patients. These finding are in accordance with Role of Kabat physical rehabilitation in Bell's palsy: a randomized trial.[5]

Also group B shows improvement in facial asymmetry on comparison with pre and post scores. These finding is in accordance with **Effects of electrical stimulation on House-Brackmann scores in early Bell's palsy.**[6]

When the mean values were compared Group A showed significant improvement in improving facial asymmetry than group B. hence this study proves that there is improvement and less time is taken in recovery of bells palsy with kabat techniques.

CONCLUSION

Based on statistical analysis in this study it can be concluded that combination of Kabat with routine physiotherapy treatment is much better than routine physiotherapy treatment alone. We could thereby conclude that practicing Kabat technique with routine physiotherapy treatment together in patients with Bell's palsy it would enhance the recovery of the patients.

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