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EFFECTS OF BRANDT DAROFF EXERCISE IN PATIENT WITH BENIGN PEROXYSMAL POSITIONAL VERTIGO

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ABSTRACT
Backround: Benign paroxysmal positional vertigo is most common cause of vertigo which is false sensation of spinning. **Aim and objective:** Aim of study is to assess the effect of BRANDT DAROFF exercise in BPPV. **Methodology:** 20 participants were recruited for the study and divided into two groups control group which consists of 10 sample (group A) & experimental group consists of 10 sample (group B). Group A was treated with BRANDT DAROFF EXERCISE and group B treated with balance exercise. **Outcome Measure:** {VHQ} vertigo handicap questionnaire. **Result**: Pre and post test values of {VHQ} proved that effects of BRANDT DAROFF exercise were significant. **Conclusion:** This study concluded that BRANDT DAROFF of exercise is effective in treating benign paroxysmal positional vertigo**.**

KEYWORDS: Benign paroxysmal positional vertigo, BRANDT DAROFF exercise, balance exercise, vertigo handicap questionnaire.

INTRODUCTION
Benign paroxysmal positional vertigo (BPPV) is the most common vertiginous disorder in the community. The cardinal symptom is sudden vertigo induced by a change in head position like turning over in bed, lying down in bed, looking up, stooping, or any sudden change in head position. There is a wide spectrum of severity. Mild symptoms are inconsistent positional vertigo. Moderate symptoms are frequent positional attacks with disequilibrium between. When severe, vertigo is provoked by most head movements. Benign paroxysmal positioning vertigo is usually a self-limiting disorder where compensation occurs naturally over time, but for people whose symptoms do not reduce and who continue to have difficulty returning to daily activities, vestibular rehabilitation can help with recovery by promoting compensation. The goal of vestibular rehabilitation is to use a problem-oriented approach to promote compensation. This is achieved by customizing exercises to address each person's specific problems.

Depending upon the vestibular-related problems identified, three principal methods of exercise can be prescribed; they are habituation, gaze stabilization, balance training. Habituation exercise is indicated for patients who report increased dizziness when they move around, especially when they make quick head movements, or when they change positions.Simple vestibular exercise aimed at dispersing the otolithic debris from the cupula can speed recovery; anti vertiginous drugs are not helpful. For more severe symptoms unresponsive to exercises, three surgical options are available for relief. The first is singular neurectomy, the other two options are partitioning of the labyrinth using a laser technique and non ampullary plugging of the posterior semi circular).

BRANDT DAROFF exercises are a series of movement that can help with certain type of vertigo. They were originally designed to habituate the CNS to the provoking position. They may also act to dislodge debris from the or by causing debris to move out of the canal. It is advised for patients with persistent/ residual or mild vertigo. Benign paroxysmal positional vertigo peak incidence is with-in 50-70 years. Vertigo handicap questinnaire can be used to measure a patient's self perceived handicap as a result of vestibular disorder. Physical therapy plays an important role in reducing vertigo and nystagmus in Benign paroxysmal positional vertigo subjects.

AIM OF THE STUDY
The aim of the study is to assess the effect of BRANDT DAROFF exercise on BPPV.

RESEARCH DESIGN AND METHODOLOGY
An experimental study design was conducted with 20 samples who fulfilled the inclusion and exclusion

criteria.

INCLUSION CRITERIA

- Patient with benign paroxysmal positional vertigo
- Age group between 30 -50 years
- Willing to participate in study

EXCLUSIVE CRITERIA

- Patient with central vertigo
- Head injury
- Neck stiffness
- Motion sickness
- Cervical fracture

PROCEDURE

Procedure was explained to the individuals and selected according to the inclusion and exclusion criteria. Informed consent was obtained from all the subjects before the treatment. Pre-test is done for 20 individuals.

PRE TEST

Vertigo handicap questionnaire (VHQ) is done as a pre test to check the vertigo status.

Subjects were then randomly distributed into two groups 10 in each, group A treated with brandt daroff exercise and group B treated with balance exercise.

GROUP A: (CONTROL GROUP)

In group A, the 10 individuals were treated with balance exercise there are specifically used for four weeks

SINGLE LEG STANCE

Patients are allowed to stand with their feet at hip-width.

Instructions given to the patients

While holding onto a counter, lift one foot off the ground slightly. Keep the body tall and avoid leaning onto the planted foot. Hold the foot up for 10 to 15 seconds. Repeat 5 times on each leg.

HEEL RAISES

Patients are allowed to stand with their feet shoulder-width apart. While holding onto a counter or firm surface, they should lift their heels off the ground. They should feel most of his or her weight shift to the front of their feet, 10 repetitions repeated 2 to 3 times.

MARCHING IN PLACE EXERCISE

Step 1: Stand near a wall or corner, or place a chair nearby. Patient place the arms by his or her side.

Step 2: Lift their right knee, followed by their left knee as they march. Try to raise their knees as high as comfort allows.

Step 3: March in place 20 times. Repeat this exercise two times a day.

GROUP B: (Experimental Group)

In group A, the 10 individuals were treated with brandt daroff exercise. The patient first sits over the edge of the table and turns his or her head 45 degrees toward the unaffected side and then moved rapidly into the affected side-lying and stays there for 30 seconds. The patient then slowly returns to starting position maintaining head rotation until sitting upright. The patient remains in the upright position for 30 seconds, turns his or her head 45 degrees in the opposite direction and then moves rapidly into the mirror-image position on the other side, stays there for 30 seconds, and then sits up The patient then repetition the entire maneuver for 10 times. These exercises are done in the morning, afternoon and evening 5 repetitions for duration of about 10 minutes in each session. It should be performed for six weeks.

Table 1: Group A (Balance Exercise).

SL.NO	NAMES	MEAN VALUE		SD VALUE		T- VALUE	P- VALUE
		PRE	POST	PRE	POST		
1	VERTIGO HANDICAP QUESTIONNAIRE	50.8	39.9	5.43	3.80	5.201	<0.001

Table 2: Group B. (Brandt Daroff Exercice).

SL.NO	NAME	MEAN VALUE		SD VALUE		T- VALUE	P- VALUE
		PRE	POST	PRE	POST		
1	VERTIGO HANDICAP QUESTIONNAIRE	48.6	34.2	5.91	1.72	7.398	<0.0001

RESULT

The total score of the each group were analyzed by vertigo handicap questionnaire which proved that the brandt daroff exercise is effective in treating bppv.

DISCUSSION

Statistical analysis of the data reveals that the subjects of both the groups (A&B) have significant improvement in their symptoms and confidence level, based on the (VHQ) scale. However the participants of group A who were treated with balance exercise showed lesser improvement than the participants of group B who were treated with Brandt daroff exercise. All exercises were started slowly and gradually progressed in speed. The rate of progression from the bed to sitting and then to standing exercises depends upon the dizziness of each

individual participant. These exercises stimulate the plasticity of neural tissues in the floccular region of the cerebellum, which plays an important role in modifying signal processing in the vestibular ocular reflex pathway. In this study 30 cases of Benign paroxysmal positional vertigo subjects were selected on whom balance exercise for 15 patients Group A and Brandt Daroff exercises for the other 15 patients Group B exercise performed for 6 weeks resulted that both the treatments are effective in reducing vertigo. On comparing both post values on vertigo handicap questionnaire scale post values and means scores were 39.2 and 34.2 standard deviation 3.80 and 1.72 respectively. These values were compared with pre-values taken by vertigo handicap questionnaire before test. The following mean score 50.8 and 48.6 standard deviation is 5.43 and 5.90 showed 20% more improvement in Group B than Group A. Total percentage improvement in Group A -50% Group B-70%.

CONCLUSION

Brandt daroff exercise is most effective to treating the benign peroxysmal positional vertigo subjects.

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