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Effectiveness Of Half Somersault Maneuver Versus Semont Maneuver In Bppv Patient By Dix - Hallpike Test And Dizziness Handicapped Inventory Scale

Dr. Utkarsh bhole[1], Dr. Chitra Mridha[2], Dr. Jaywant Nagulkar [3]

[1]Bachelor of physiotherapy, Dr. Ulhas Patil College Of Physiotherapy, Jalgaon, India

[2]Professor, Dr. Ulhas Patil College Of Physiotherapy, Jalgaon, India

[3]Principal, Dr. Ulhas Patil College Of Physiotherapy, Jalgaon, India

Abstract:

Title: Effectiveness of Half Somersault Maneuver Versus Semont Maneuver in BPPV Patient by Dix - Hallpike Test and Dizziness Handicapped Inventory Scale.

Aim of the study: To Compare Half Somersault Maneuver versus Semont Maneuver in Patients with Posterior Canal Benign Paroxysmal Positional Vertigo (BPPV) Using the Dix-Hallpike Test and Dizziness Handicapped Inventory Scale aged 50-70 years.

Methodology: Clinical diagnosis was confirmed using the Dix-Hallpike maneuver to provoke characteristic nystagmus. Therapeutic outcomes were assessed by comparing pre- and post-intervention scores via the Dizziness Handicapped Inventory (DHI) scale, a comprehensive 25-item self-assessment tool measuring functional, emotional, and physical disability. The standardized intervention protocol included one session per day involving three repetitions, performed five days weekly over a four-week duration.

Design and setting: This research utilized a single-blinded comparative study design conducted over a six-month period within multi-specialty hospital settings. A cohort of 38 participants, aged between 50 and 70 years, was recruited and allocated into two equal groups of 19 through restricted randomization using a simple chit method.

Result: Intragroup analysis using the Wilcoxon Signed Ranks Test showed that both the Half Somersault maneuver (median DHI score reduced from 46 to 30; p=0.000107) and the Semont maneuver (median DHI score reduced from 44 to 22; p=0.0001053) led to significant improvements. However, the between-group comparison via the Mann-Whitney U test yielded an extremely significant p-value (p=0.0000008817), indicating that the Semont maneuver produced a greater degree of improvement in reducing dizziness handicap compared to the Half Somersault maneuver.

Conclusion: While both repositioning maneuvers are effective interventions for managing BPPV, the Semont maneuver is clinically superior to the Half Somersault maneuver in reducing dizziness-related disability and improving functional outcomes for patients in the 50–70 years age group.

Keywords: Benign Paroxysmal Positional Vertigo (BPPV), Dizziness Handicap Inventory (DHI), Half Somersault Maneuver (HSM), Posterior Canal (PC),Semicircular Canals (SCCs), Semont Maneuver (SM)

I. INTRODUCTION

Benign paroxysmal positional vertigo (BPPV), first described by Barany in 1921, is attributed to otolith disease.[1] The clinical diagnosis of this disorder was clarified by Dix and Hallpike, who described the classic positioning that induces a characteristic nystagmus. Benign paroxysmal positional vertigo is characterized by brief vertigo attacks, where individuals feel like the environment is spinning around them.[2] These attacks are accompanied by nystagmus, which is the rapid, involuntary movement of the eyes, and are often triggered by specific changes in head position relative to gravity.[3]

In most cases of BPPV, no specific cause can be identified. Closed head injury is the most commonly known cause, followed by vestibular neuritis. BPPV can develop in about 15% of patients with vestibular neuritis. Other predisposing events include infections, certain surgeries like stapedectomy and cochlear implant insertion,[4] prolonged bed rest, and Meniere's disease.[5] The annual incidence of BPPV is around 64 cases per 100,000 people.[6] It most commonly occurs spontaneously among individuals aged 50 to 70 years.[7] Posterior canal BPPV is the most common type, while Horizontal and Anterior canal BPPV are rarer.[8]

The human vestibular system is essential for maintaining balance and spatial orientation. It consists of three main components:

the peripheral sensory apparatus, the central processor, and the mechanism for motor output.

The peripheral apparatus includes motion sensors that detect head angular velocity and linear acceleration. These sensors send information to the central nervous system, specifically the vestibular nucleus complex and the cerebellum. The central nervous system processes these signals along with other sensory inputs to estimate head and body orientation. The central vestibular system then sends signals to the ocular muscles and spinal cord to control three crucial reflexes: the vestibulo-ocular reflex (VOR), the vestibulocollic reflex (VCR), and the vestibulospinal reflex (VSR). The VOR generates eye movements that allow clear vision when the head is in motion. The VCR stabilizes the head by acting on the neck muscles. The VSR generates compensatory body movements to maintain head and postural stability, helping to prevent falls. The central nervous system continuously monitors the performance of these reflexes to ensure proper functioning.[9]

The peripheral vestibular system consists of the membranous vestibular labyrinth located within the petrous portion of each temporal bone, which is the base of the skull between the sphenoid and occipital bones. Within each labyrinth are five neural structures that detect head acceleration: three semicircular canals (SCCs) and two otolith organs. The three semicircular canals - horizontal, posterior/inferior, and anterior/superior - are responsible for sensing angular acceleration. These canals are oriented orthogonally, meaning they are positioned at right angles with respect to one another. The alignment of the semicircular canals in the temporal bone is such that each canal has a contralateral coplanar mate. The semicircular canals (SCCs) are filled with endolymph, a fluid slightly denser than water. This endolymph moves freely within each canal in response to the direction of angular head rotation. At one end, the SCCs enlarge to form the ampulla. Inside the ampulla is the cupula, a gelatinous barrier that contains the sensory hair cells. The otolith organs, which include the saccule and utricle, are part of the membranous labyrinth and respond to linear acceleration and static head tilt. The sensory hair cells in these organs project into a gelatinous material containing calcium carbonate crystalline-structured material called otoconia. These otoconia provide the otolith organs with inertial mass, aiding in the detection of linear acceleration and head tilt.[10]

The pathophysiology of BPPV can be explained by two main theories: cupulolithiasis and canalithiasis. In cupulolithiasis, degenerated otoconia from the utricle stick to the cupula of the semicircular canal, making it denser than the surrounding endolymph. This increased density makes the cupula more sensitive to gravity's effects. On the other hand, in canalithiasis, the degenerated otoconia remain floating in the endolymph of the canals without adhering to the cupula. In both scenarios, head movements cause these fragments to move, stimulating the cupula of the semicircular canal inappropriately and exciting the ampullary nerve, leading to vertigo.[10]

The Dix-Hallpike maneuver is used to clinically provoke BPPV and is the definitive test for the condition.[2] The maneuver involves specific head and body positioning to isolate and test the for BPPV. During the maneuver, the patient is first seated with the head turned 45 degrees to the side being tested to isolate that side's canal. Then, the patient is laid back into a supine position with the tested ear down. It's important to note that while classic teaching suggests hanging the head back over the edge of the bed, this is not necessary for the Dix-Hallpike test alone. Overextending the neck can lead to false positive responses from the opposite side. A diagnosis of BPPV is typically confirmed if the Dix-Hallpike maneuver elicits the appropriate nystagmus. Characteristic features of the nystagmus include latency of onset, limited duration, torsional and upbeat directionality, reversibility, and fatigability.[11]

In order to study the effectiveness of the therapeutic interventions, Dizziness handicap inventory scale (DHI) was chosen as a outcome parameters. The Dizziness Handicap Inventory (DHI) is a tool used to assess how much disability a person feels due to symptoms like dizziness, vertigo, or unsteadiness. It consists of 25 questions and offers response options of 'yes', 'no', and 'sometimes'.[12]

Several treatment options are available for benign paroxysmal positional vertigo (BPPV), including vestibular habituation exercises, vestibular suppressants, destructive surgical procedures, and canalith repositioning maneuvers. Among these, repositioning maneuvers are more commonly used than the other approaches. The Epley maneuver, Semont maneuver, foster maneuver and Brandt–Daroff exercises are widely employed in the management of BPPV.[13]

The Half-Somersault maneuver, also known as the Foster maneuver, is a technique for managing posterior SCC BPPV. Based on the canalithiasis theory, this maneuver facilitates the relocation of dislodged calcium carbonate crystals (otoconia) within the vestibular system of the inner ear, particularly targeting the posterior semicircular canals.[14]

The Semont (Liberatory) maneuver was initially introduced as a treatment for posterior semicircular canal (SCC) Benign Paroxysmal Positional Vertigo (BPPV), based on the cupulolithiasis theory. It involves quickly moving the patient through specific positions to dislodge debris from the cupula. Research indicates it can be an alternative therapy for canalithiasis,[10]

Half somersault Maneuver and semont maneuver are an effective intervention which produces a significant improvement in treating the Benign paroxysmal positional vertigo subjects. There are only a few studies that compare the improvement in dizziness resulting from the use of the home Semont Maneuver and the half somersault Maneuver. Therefore, this study aims to evaluate the effectiveness of the Semont Maneuver in comparison to the half somersault Maneuver for individuals with benign paroxysmal positional vertigo.

OBJECTIVES:

1. To assess the patients for BPPV by Dix Hallpike’s test and by Dizziness handicapped inventory Scale and to divide patients in two groups i.e. Group 1 and Group 2.
2. To administer half somersault maneuver to group 1.
3. To administer Semont maneuver to group 2.
4. To study the outcome result by comparing the score of pre and post intervention of both maneuvers by Dizziness handicapped inventory scale And Dix-Hallpike test to see which is clinically effective.

II. MATERIAL AND METHODOLOGY

Material Required:

Evaluation Sheet, Consent form, Dizziness handicapped inventory scale

Methodology:

- Type of study: A comparative study
- Study population: BPPV Patients
- Sampling technique: restricted randomisation using simple chit method with single large block, block size=19
- Study duration: 6 months
- Blinding: single blinded (patients are blinded)
- Study protocol: 1 session per day 3 repetitions, 5 days in a week, for 4 weeks
- Place of study: Multi speciality hospitals
- Minimum sample size: n = 19 in both group

Selection Criteria:

Participants included in the study were patients clinically diagnosed with benign paroxysmal positional vertigo (BPPV) who had a history of recurrent episodes of vertigo. Both male and female subjects aged between 50 and 70 years were considered eligible for inclusion. The diagnosis of BPPV was confirmed by a positive Dix–Hallpike test, and only those participants who provided informed consent were enrolled in the study. Patients were excluded if vertigo was attributable to causes other than BPPV. Additional exclusion criteria included a medical history of diabetes mellitus or hypertension, the presence of spinal disorders such as spondylitis, and any joint pathology that could restrict the movements required to perform the therapeutic maneuvers.

Hypothesis:

- Hypothesis (H1):

[1] Either Half-Somersault (foster) maneuver or the Semont maneuver will be more effective in reducing symptoms of BPPV patients on assessment by Dix-Hallpike's Test and Dizziness Handicapped Inventory Scale.
[2] Semont maneuver and Half Somersault maneuver will be equally effective in reducing symptoms of BPPV patients on assessment by Dix-Hallpike's Test and Dizziness Handicapped Inventory Scale.

- Null Hypothesis (H0):

Neither maneuver nor half somersault maneuver will not find to be beneficial in reducing symptoms of BPPV patients on assessment by Dix-Hallpike's Test and Dizziness Handicapped Inventory Scale.

III. PROCEDURE:

Ethical clearance was obtained from the Institutional Ethics Committee of Dr. Ulhas Patil College of Physiotherapy prior to the commencement of the study. This comparative study was conducted at multispecialty hospitals, and participants were selected based on predefined inclusion and exclusion criteria. Initially, the nature and purpose of the study were explained to all participants, followed by a brief evaluation, and written informed consent was obtained. The subjects were then randomly divided into two groups, Group 1 and Group 2, using a simple chit method. Pre-treatment evaluation of all subjects was carried out using the Dix–Hallpike test and the Dizziness Handicap Inventory (DHI) scale. Group 1 participants received the Half Somersault exercise, while Group 2 participants were treated with the Semont exercise. Post-treatment evaluation was again performed using the Dix–Hallpike test and the Dizziness Handicap Inventory scale. The collected data were recorded, and statistical analysis was performed to analyze the results.

OUTCOME MEASURES:

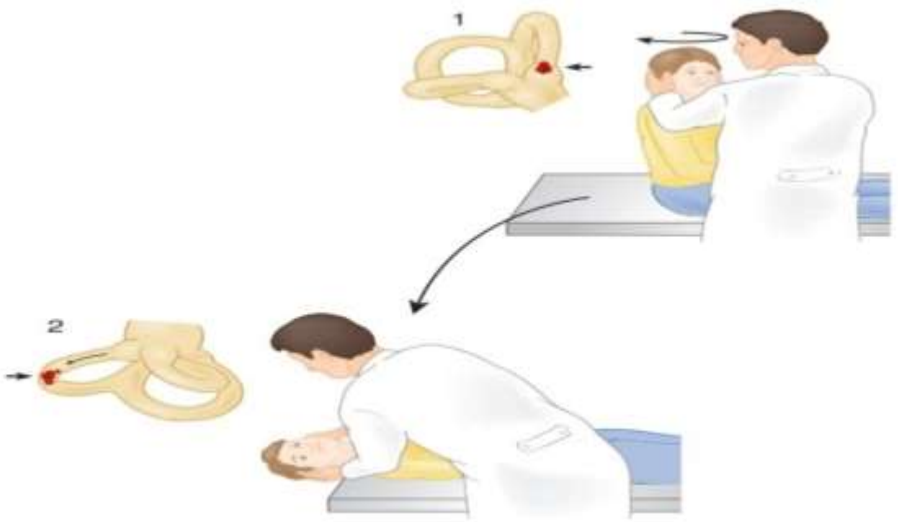
[1] Dix-Hallpike Test:

The Dix-Hallpike maneuver is used to clinically provoke BPPV and is the definitive test for the condition. The maneuver involves specific head and body positioning to isolate and test the for BPPV. A diagnosis of BPPV is typically confirmed if the Dix-Hallpike maneuver elicits the appropriate nystagmus. Characteristic features of the nystagmus include latency of onset, limited duration, torsional and upbeat directionality, reversibility, and fatigability. (ICC 0.50) [10]

The Dix-Hallpike test:

(1) The patient sits on the examination table and the clinician turns the head horizontally 45°.

(2) As the examiner maintains the 45° rotation, the patient is quickly brought to a supine position with the neck extended 30° beyond the horizontal. The examiner must look for nystagmus and ask the patient if vertigo is being experienced. The patient is then slowly brought back to the starting position, and the other side is tested. The side that reproduces nystagmus and vertigo is the side that has the benign paroxysmal positional vertigo (BPPV). Shown here for testing right posterior BPPV.[9]



[2] Dizziness Handicap Inventory (DHI) Scale:
The study used the Dizziness Handicap Inventory (DHI) Scale as an outcome measure to evaluate how dizziness affects quality of life. This self-report questionnaire was initially created to measure the disabling effects of dizziness. The DHI Scale is a 25-item self-assessment tool designed to assess the functional, emotional, and physical impacts of dizziness and unsteadiness. It has demonstrated high test-retest reliability (ICC 0.92) and moderate construct validity, indicated by a Pearson's correlation coefficient of 0.47.[11]

INTERVENTION:

- HALF-SOMERSAULT MANEUVER:

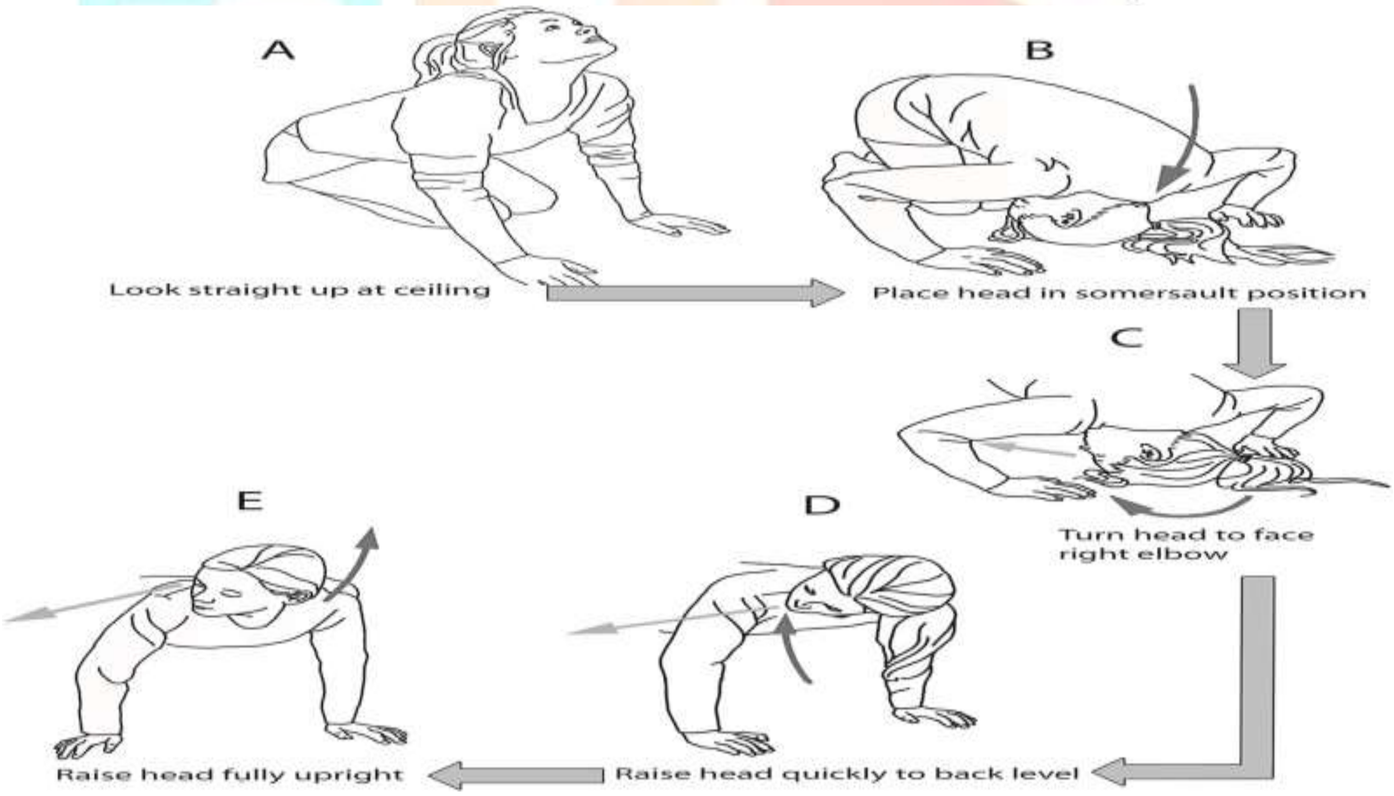


Fig. 1. Half somersault for right-sided PC BPPV. After each position change, any dizziness is allowed to subside before moving into the next position; if there is no dizziness, the position should be held for 15 s.
A: While kneeling, the head is quickly tipped upward and back
B: The somersault position is assumed, with the chin tucked as far as possible toward the knee.
C: The head is turned about 45° toward the right shoulder, to face the right elbow.
D: Maintaining the head at 45°, the head is raised to back/shoulder level.

E: Maintaining the head at 45°, the head is raised to the fully upright position
Dark curved arrows show head movements. Lighter arrows near eyes show the direction one should be facing.

- SEMONT MANEUVER:

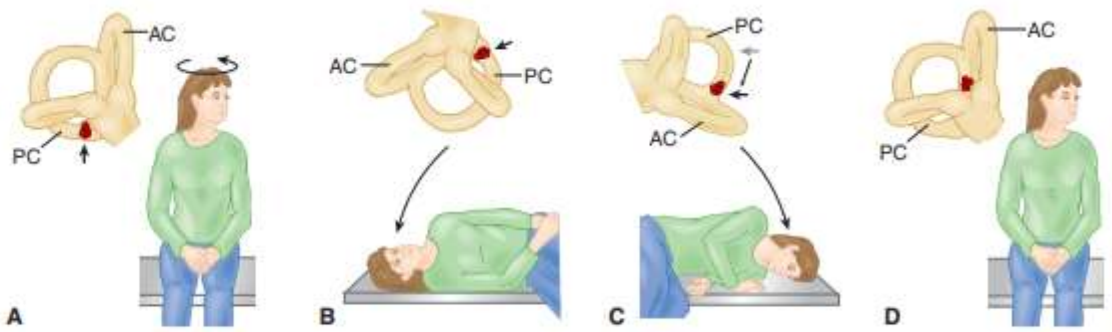
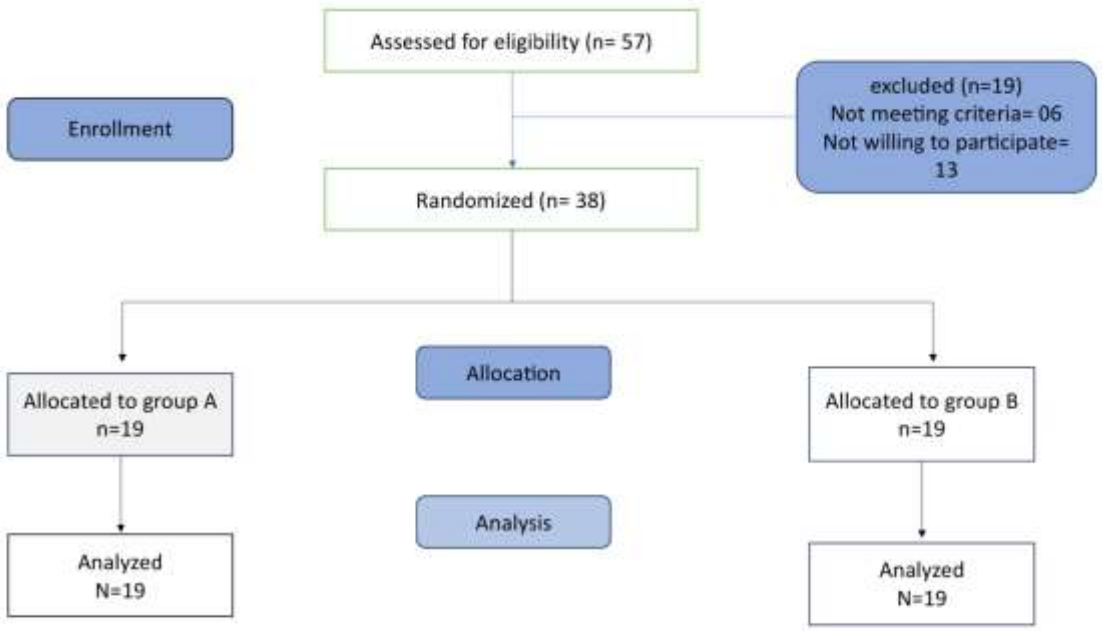


Fig. 2. Semont maneuver for right side PC BPPV. The physical therapist should assist the patient through this positioning procedure. Note the otoconia adherent to the cupula in A and B.

(A) The head is rotated 45° to the left side.
(B) With assistance, the patient is then moved from sitting to right side-lying and stays in this position for 1 minute.
(C) The patient is then rapidly moved 180°, from right side-lying to left side-lying. The head should be in the original starting position, left rotated (nose down in final position) in this example. Note that the otoconia have been dislodged from the cupula. After 1 minute in this position,
(D) the patient returns to sitting.

Statistical Analysis:

The Shapiro–Wilk test was used to evaluate the normality of variables. since the data was not normally distributed, non-parametric tests were used. The median values were reported for the descriptive analysis of the quantitative variables. The categorical variables were analyzed using the Chi-Square Test. The Wilcoxon signed rank test was used for comparison of pre and post scores of outcome measures in intragroup statistical analysis. Mann-Whitney Test was applied to evaluate whether the differences of pre and post scores (change) of two groups were statistically significant. All the analyses were conducted with SPSS v.16 software p-values < 0.05 were considered statistically significant.



IV. RESULTS

The participants age, gender, involved side of the individual were noted as preliminary information. These baseline variables were compared between 2 groups.

- ❖ Age distribution (years):

Age of participants in the study were within 50 to 70 years. Mean of group 1 is 58.26 and Standard deviation is 6.60, Mean of group 2 is 60.05 and Standard deviation is 7.23

AGE	MEAN	SD
GROUP 1	58.26	6.60
GROUP 2	60.05	7.23

Table 1

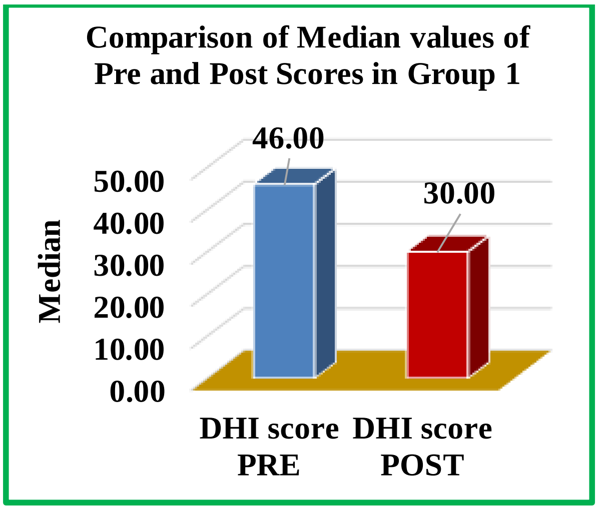
- ❖ Gender distribution:

A total of 38 participants were included in the study. Group 1 had 19 participants (12 males and 7 females), and Group 2 also had 19 participants (11 males and 8 females). Overall, the study sample comprised 23 males and 15 females.

Group	**Gender**		**Total**
	Male	**Female**	
Group 1	12	7	19
Group 2	11	8	19
Total	23	15	38

Table 2

- ❖ **Group 1 – Comparison of Pre and Post DHI Scores:**



Graph 3

Ranks				
		N	Mean Rank	Sum of Ranks
DHI score POST - DHI score PRE	Negative Ranks	19a	10	190
	Positive Ranks	0b	0	0
	Ties	0c		
	Total	19		

Table 3a

Test Statistics(b)	
	DHI score POST - DHI score PRE
Z	-3.875a
Asymp. Sig. (2-tailed)	0.000107

Table 3c

Group 1	DHI score PRE	DHI score POST
Sample size	19	19
Mean	46.21	30.00
Median	46.00	30.00
Mode	46.00	36.00
Std. Deviation	8.53	8.51

Table 3b

In Group 1, the DHI scores reduced from a median of 46 to 30 after treatment, p = 0.000107 (< 0.05). There was a statistically significant improvement in DHI scores after treatment in Group 1. This indicates a strong improvement in dizziness-related disability.

❖ **Group 2 – Comparison of Pre and Post DHI Scores:**

Ranks				
		N	Mean Rank	Sum of Ranks
DHI score POST - DHI score PRE	Negative Ranks	19a	10	190
	Positive Ranks	0b	0	0
	Ties	0c		
	Total	19		
a. DHI score POST < DHI score PRE				
b. DHI score POST > DHI score PRE				
c. DHI score POST = DHI score PRE				

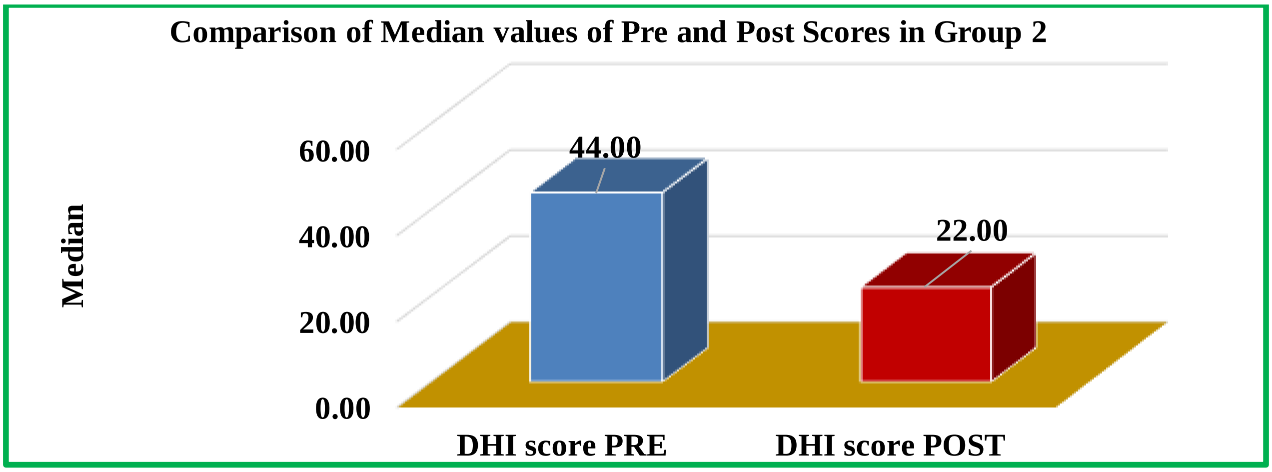
Table 4a

Test Statistics(b)	
	DHI score POST - DHI score PRE
Z	-3.878a
Asymp. Sig. (2-tailed)	0.0001053

Table 4c

Group 2	DHI score PRE	DHI score POST
Sample size	19	19
Mean	45.79	23.58
Median	44.00	22.00
Mode	32.00	12.00a
S.D.	9.91	8.91

Table 4b



Graph 4

In Group 2, the DHI scores reduced from a median 44 to 22 after treatment, p = 0.0001053 (< 0.05). There was a statistically significant improvement in DHI scores after treatment in Group 2. This indicates a strong improvement in dizziness-related disability.

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❖ Comparison Between Group 1 and Group 2:

Group 2 (median = 22) shows a greater mean reduction in DHI score compared to Group 1 (median = 16)

The Mann-Whitney test shows a highly significant difference between the two groups. There is a statistically significant difference between Group 1 and Group 2 in terms of improvement. Group 2 (Semont maneuver) had greater improvement than Group 1 (Half-somersault maneuver).

Statistics		
Groups	Group 1	Group 2
Sample size	19	19
Mean	16.2105	22.2105
Median	16	22
Mode	16	24
Std. Deviation	1.61861	1.75052

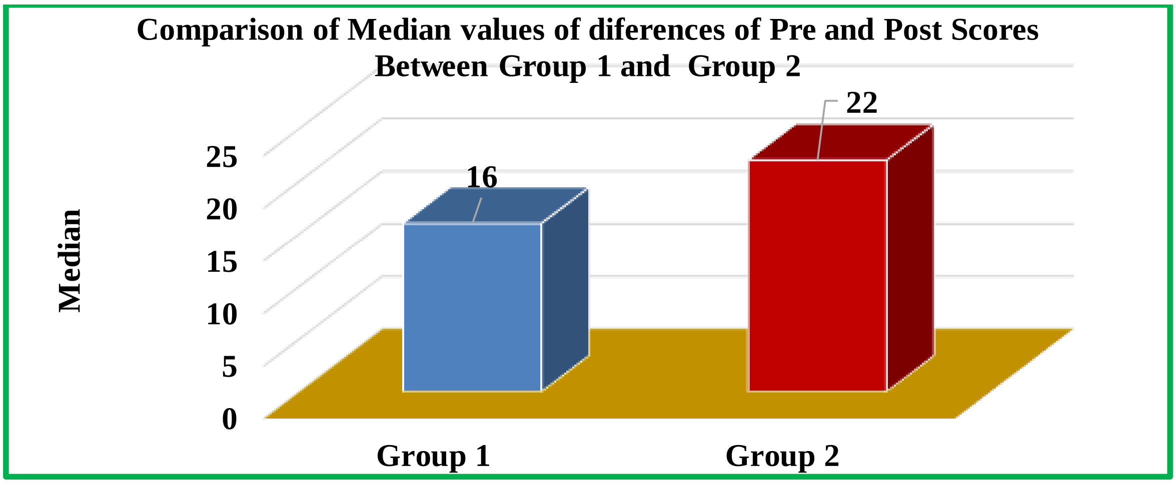
Table 5a

Ranks				
	Group	N	Mean Rank	Sum of Ranks
DHI score difference	1	19	10	190
	2	19	29	551
	Total	38		

Table 5b

Test Statistics	
	DHI score difference
Mann-Whitney U	0
Wilcoxon W	190
Z	-5.35
Asymp. Sig. (2-tailed)	0.00000008817
Exact Sig. [2*(1-tailed Sig.)]	0.000000000057

Table 5c



Graph 5

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IV. DISCUSSION:

This study compared the effectiveness of the Half Somersault Maneuver and the Semont Maneuver in improving dizziness-related disability among patients with Benign Paroxysmal Positional Vertigo (BPPV) aged 50–70 years. Both interventions demonstrated significant within-group improvements, indicating that each maneuver was effective in reducing dizziness handicap and improving functional status as measured by the Dizziness Handicap Inventory (DHI).

Data normality was assessed using the Shapiro–Wilk test, which indicated a non-normal distribution of the variables. Consequently, non-parametric statistical methods were employed for analysis. Quantitative variables were summarized using median values, while categorical variables were analyzed using the Chi-square test. Intragroup comparisons of pre- and post-intervention outcome scores were performed using the Wilcoxon signed-rank test. Intergroup differences in change scores were evaluated using the Mann–Whitney U test to determine statistical significance.

Since the Shapiro–Wilk test revealed non-normal distribution of data, intragroup comparisons were analyzed using the Wilcoxon Signed Rank Test. In the Half Somersault group (Group 1), a statistically significant reduction in dizziness-related disability was observed. The median DHI score decreased from 46.00 pre-intervention to 30.00 post-intervention, and the Wilcoxon test yielded a Z value of –3.875 with a p-value of 0.000107. All participants showed improvement, indicating consistent therapeutic benefit of the Half Somersault maneuver.

Similarly, the Semont maneuver group (Group 2) showed a highly significant improvement. The median DHI score reduced from 44.00 to 22.00 after treatment, with a Wilcoxon Z value of –3.878 and a p-value of 0.0001053. This suggests robust clinical improvement across all participants receiving the Semont maneuver, demonstrating its effectiveness as a repositioning technique for posterior canal BPPV.

To compare the magnitude of improvement between groups, the pre-post DHI score differences were analyzed using the Mann–Whitney U test. The results revealed a statistically significant difference favoring the Semont maneuver. Group 2 showed a higher mean rank (29) compared to Group 1 (10), with a U value of 0 and a highly significant p-value ($p = 0.00000008817$). The median improvement was also greater in Group 2 (22 points) than in Group 1 (16 points). These findings clearly indicate that while both maneuvers are beneficial, the Semont maneuver produced superior improvement in dizziness handicap compared to the Half Somersault maneuver.

The greater effectiveness of the Semont maneuver observed in this study may be explained by its biomechanical advantage in rapidly dislodging otoconia from the semicircular canals. The brisk side-lying movement and high-acceleration positional change facilitate cupula deflection and canal clearing more efficiently than the slower, controlled sequence of the Half Somersault maneuver.

Overall, both interventions significantly reduced dizziness symptoms, confirming the effectiveness of repositioning maneuvers in BPPV management. However, the Semont maneuver demonstrated a greater degree of improvement, making it comparatively more effective for reducing dizziness-related disability in this study population.

The study done by Mohaddese Dehghani Khaftari et.al (2012) demonstrate that both the Half Somersault Maneuver (HSM) and the Epley Maneuver (EM) are effective in significantly reducing symptoms of posterior-canal BPPV, as reflected by the marked reduction in DHI, VSS, VRBQ, and VAS scores from pretreatment to each follow-up point ($P < .0001$). Although the improvement over time was significant within both groups, no significant difference was observed between the groups in total DHI scores ($P = .119$) or its subscales, indicating comparable functional and physical recovery. However, important differences emerged in psychometric outcomes: the HSM group showed significantly lower total VSS scores ($P = .045$) and vertigo-subscale VSS scores ($P = .038$), along with significantly reduced VRBQ anxiety ($P = .015$) and quality-of-life subscale scores ($P = .023$), suggesting superior psychological and symptomatic relief with HSM. Residual dizziness, assessed using VAS, was markedly lower in the HSM group across all four weeks (e.g., Week-1 VAS: 1.52 ± 1.62 for HSM vs. 4.23 ± 1.53 for EM; P < .0001), indicating faster subjective recovery. In terms of treatment efficiency, EM achieved faster canalith clearance, with 61% resolving after the first maneuver and only one patient requiring a third, whereas HSM showed a slower resolution rate, with only 35% clearing after the first maneuver and 17% requiring up to four maneuvers. Although recurrence rates were slightly lower in the HSM group (5%) compared to EM (11%), the difference was not statistically significant. Together, these findings indicate that while EM is more efficient in achieving immediate canalith repositioning, HSM provides greater improvement in anxiety, vertigo perception, and residual dizziness, making it a more comfortable and psychologically beneficial option for many patients.[20]

A study done by Chayada Sinsamutpadung et al. (2021) also compared two repositioning maneuvers—Epley and Semont—in posterior canal BPPV patients and reported significant reductions in dizziness severity after both interventions. Their results indicated that both maneuvers effectively reduced vertigo intensity. In that study, the Semont maneuver cured 90% of patients in the first week, while the Epley maneuver cured 92.5%, showing no significant difference in overall treatment success. However, Sinsamutpadung et al. further noted that the Epley maneuver was superior in reducing dizziness intensity (p = 0.009), while the Semont maneuver remained equally effective.[21]

The present study found that although both the Semont and Half Somersault Maneuvers improved dizziness-related disability in BPPV, the Semont maneuver produced a greater reduction in DHI scores, with a median improvement of 22 points compared to 16 points in the HSM group. Evidence from previous studies supports this pattern. Dehghani Khaftari et al. showed that the Half Somersault maneuver had lower first-attempt success (35%) and required more repetitions compared to Epley (61%), and patients also experienced higher levels of residual dizziness in early follow-up. In contrast, Sinsamutpadung et al. reported that the Semont maneuver achieved a 90% cure rate, nearly comparable to the 92.5% achieved with Epley, with no significant difference in one-week outcomes (P = .251). When these findings are considered together, a consistent trend becomes evident: in studies where each maneuver was evaluated against the same comparison method, Semont showed performance closer to the reference maneuver, while HSM showed comparatively lower effectiveness. This pattern supports the results of the present research, indicating that Semont provides stronger overall improvement than the Half Somersault maneuver in managing BPPV.

CONCLUSION

In this study, we compared the effectiveness of the Half Somersault Maneuver and the Semont Maneuver. Both interventions demonstrated significant within-group improvements, confirming the effectiveness of repositioning maneuvers in BPPV management. However Semont maneuver demonstrated a greater degree of improvement, in reducing dizziness handicap and improving functional status as measured by the Dizziness Handicap Inventory (DHI).

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