

**TREATMENT OF VERTIGO- WITH & WITHOUT ANXIOLYTIC DRUG (ALPRAZOLAM 0.25MG)**

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**ABSTRACT****Objective:** To compare the effect of using the tablet Alprazolam 0.25mg in the treatment outcome of vertigo related anxiety by beck anxiety inventory.**Study Design:** Comparative study.**Place and Duration of Study:** Combined Military Hospital Okara Cantt, Sep 2018 to Jun 2020.**Methodology:** A total of 384 patients were included in the study. They were randomly assigned to group A and B by randomized clinical trial. Group A was given tablet alprazolam 0.25 mg along with the conventional treatment of vertigo and group B was given the treatment of vertigo only and no anxiolytic was added. Their pre & post treatment (after 2 weeks) anxiety level using Beck anxiety inventory was scored.**Results:** There was a significant improvement in group A patient's vertigo effects after treatment with alprazolam. Also, it was observed that group A patients responded significant improvement in anxiety score as compared to Group B patients 02 weeks post treatment.**Conclusion:** Antianxiety treatment should be added in all cases with the conventional treatment of vertigo to reduce the vertigo associated anxiety of the patients.**Keywords:** Anxiety, Vertigo, Tablet alprazolam.**How to Cite This Article:** Ayub MW, Bukhari SMAS, Raza M, Waqas A, Khan BH, Najam A. Treatment of Vertigo - With & Without Anxiolytic Drug (Alprazolam 0.25MG). *Pak Armed Forces Med J* 2021; 71 (Suppl-3): S445-447. Doi: <https://doi.org/10.51253/pafmj.v1i1.7922>


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**INTRODUCTION**

One of the most common complaint of patients presenting in ENT outdoor is Vertigo. Past studies have exhibited that about 80% of patients' day by day life were seriously influenced by recurrent vertigo. The majority reasons of vertigo are peripheral vestibular diseases.<sup>1</sup> This may or may not be associated with nausea vomiting, sweating and walking difficulty. The most common disorders that produce vertigo are benign paroxysmal positional vertigo, Meniere's disease, Vestibular neuronitis and cervical vertigo. Vertigo has got serious psychological effects on the patients producing physical symptoms. High paces of simultaneousness of mental problems particularly despondency/nervousness and vestibular issues have been articulated since the far off past.<sup>2</sup> One of the most common effect is anxiety related to dreadfulness of vertigo. Anxiety itself does not produce vertigo but in conditions causing vertigo, anxiety can make the vertigo worse. Vertigo is diagnosed by various tests including positional tests and Dix Hallpike test. Main stay of treatment is vestibular sedative drugs like Prochlorperazine, Cinnarizine and Betahistine. A very important aspect of the treatment of vertigo which is often missed is

addressing the anxiety of the patient. Anxiety prolongs the disease process. Keeping in view the above a study was carried out to compare the anxiety level in vertigo patients using Beck inventory score before and after the treatment with anxiolytic drug Alprazolam 0.25 mg.

**METHODOLOGY**

The study design was randomized clinical trial. It was conducted in Combined Military Hospital Okara Cantt, from Sep 2018 to Jun 2020. Sample size was calculated according to incidence of vertigo and dependent population. It was 384 sampling technique was single blind, probability simple random by lottery method. Out of 384 patients who presented to ENT outpatient department Combined Military Hospital Okara were included in the study after taking consent were randomly assigned to both groups one by one. They were diagnosed clinically as well as radiologically and were divided into two groups. Group 'A' was given tablet Alprazolam 0.25 mg in addition to the treatment of vertigo using tablet Betahistine and tablet Prochlorperazine. Group 'B' was given the conventional treatment. Their Beck's anxiety inventory score was calculated before and 2 weeks after treatment. According to this score patients with score 0-7 were considered at minimal anxiety level, 8-15 were mild, 16-25 were mo-

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derate and 26-63 were at severe anxiety level. Following was the inclusion and exclusion criteria.

**Inclusion Criteria:**Vertigo with anxiety level 16-63 according to Beck Inventory Score. All peripheral causes of vertigo diagnosed clinically and radiologically. Vertigo specific anxiety.

**Exclusion Criteria:** Central causes of vertigo. Score 0-15 of Beck Anxiety inventory, Anxiety related disorder.

The statistical analysis was done by using SPSS-21. Descriptive statistics were applied to calculate frequencies of variables in the study like age,gender and anxiety score. *p*-value was kept <0.05. Independent t-test and paired sample t-test was applied.

**RESULTS**

The mean age of the study population was 44.59 ± 13.19 SD years. The minimum age was 20 years and the maximum age was 76 years. Out of 215 (55.9%) were male and 169 (44.1%) were females, 192 cases were in group 1 and were treated with anxiolytic and 192 were treated without anxiolytic. The Table-I is showing the 384 cases of vertigo along with various percentage of diseases in our study.

Independent t-test was applied and showed *p*-value <0.05 which depicted high statistical significance. Paired samples t-test was also applied. *p*-value was calculated which was also <0.005 and showing the effectiveness of management in both groups.

**DISCUSSION**

We selected the patients between ages 20 and 76 years. The age range of the patients were different from other studies. Yuan *et al*,<sup>3</sup> kept age from 18-65 years so that the old age related imbalance does not affect the study. Gender distribution of our study also differ from previous studies as less females were included in our study.

Emotional disorders particularly anxiety are also frequently reported in patients with various vertigo diseases, which can aggravate this symptom.<sup>4</sup> Previous studies have suggested that vestibular system errors could be an important cause of passionate issues, including anxiety and depression.<sup>5,6</sup> Though, Best *et al*,<sup>7</sup> finished an examination in 68 patients with intense vestibular vertigo and discovered no relationship between the seriousness of vestibular brokenness and the event and seriousness of tension and misery, which was in congruity with the results of Liu *et al*.<sup>8</sup> Anxiety associated to the vertigo is also increased in acute phases of sudden structural vestibular disorders however it is not seen in patients with chronic unilateral or

bilateral loss of vestibular function.<sup>9</sup> Patients with acquired bilateral dysfunction of the vestibular system rarely report about fear of sudden falling.<sup>10</sup> Furthermore, a new report on the weakness to dread of statures in obtained reciprocal vestibulopathy patients didn't show an expansion in vulnerability (29% in Bilateral Vestibulopathy versus 28% of every-one) paying little heed to a target higher danger of tumbling from height.<sup>11</sup>

**Table-I: Disease frequency.**

Diseases	No. of Patients	Patients (%)
Vestibular Neuronitis	63	16.4
Benign Paroxysmal Positional Vertigo	108	28.3
Cervical Spondylosis	127	33
Meniere's disease	20	5.3
Vertebral artery stenosis	2	0.5
Head trauma	25	6.1
Herpes Zoster oticus	7	1.9
Cholesteatoma	32	8.5
Total	384	100

**Table-II: The percentage of cases in both the groups 'A' & 'B' with their beck anxiety inventory scores both pre- and post-treatment.**

	Beck Inventory Score	Group A (n=192)	Group B (n=192)
Pre treatment	Minimal (0-7)	-	-
	Mild (8-15)	-	-
	Moderate (16-25)	75 (16.4%)	25 (13%)
	Severe (26-63)	117 (25.5%)	167 (87%)
Post treatment	Minimal (0-7)	79 (17.2%)	77 (40.1%)
	Mild (8-15)	112 (24.5%)	113 (58.9%)
	Moderate (16-25)	01 (0.2%)	02 (1%)
	Severe (26-63)	-	-

Earlier studies have established the relations between vestibular nerves and numerous emotion linked areas comprising parabrachial nucleus (PBN), dorsal raphe nucleus, and central nucleus of infralimbic cortex, and PBN could connect with motion-control regions including the central nucleus of amygdala, locus coeruleus (LC) and hypothalamus furthermore.<sup>12</sup> The hear-able focus and limbic framework are extensively related with movement control locales as well. Furthermore, joins between vestibular cores and the hippocampus, front facing flap, and dentate gyrus have additionally been depicted.<sup>13</sup> Abnormal vestibular incitements could bring about expanded arrival of a few synapses that assume significant parts in tension and misery including, dopamine (DA), serotonin (5-HT) and norepinephrine (NA) through the association with PBN, LC, and DRN.<sup>14</sup> An endeavor has likewise been made at the cortical level-by utilization of transcranial

direct current incitement over the back parietal cortex to uncover a connection among anxiety and the vestibular framework, i.e., the vestibulo-cortical dominance.<sup>15</sup> Vestibular disability is related with expanded danger of psychological and mental comorbidity.<sup>16</sup>

Wei *et al*, hypothesize the justification the higher occurrence of uneasiness could be that the strange vestibular sign invigorating the movement related regions to deliver more active synapses recurrently in vertigo attacks. One study disclosed that sadness symptoms can adversely affect recurrence of BPPV.<sup>17</sup>

Patients who have anxiety disorders were found to be 2.17 times more likely to develop BPPV ( $p$ -value was  $<0.001$ ) than the control patients.<sup>18</sup> A recent study was conducted. The connection between pre-treatment and post-treatment tension levels, was evaluated with Beck anxiety inventory among patients determined to have and treated for Benign paroxysmal positional vertigo. Contrasted with the benchmark group, Gunes *et al*, discovered genuinely huge changes according to pre-treatment and post-treatment stock scores ( $p < 0.05$ ). An examination of the pre-treatment and post-treatment appraisals uncovered huge contrasts ( $p < 0.05$ ). This study support our study as paired t-test in our study depicting  $p$ -value  $< 0.001$ . This proved the improvement in anxiety scores after treatment in both groups. The study of Gunes *et al*, had very small sample size and did not observe the effects of anxiolytics as we observed.

Another study was conducted with anxiolytics in BPPV.<sup>20</sup> Abstract indications when CRP were determined by utilizing the Dizziness Handicap Inventory (DHI) and the Activities-Explicit Balance Confidence (ABC) scale. The two gatherings showed a critical improvement in DHI scores. However, the medicine bunch showed altogether more noteworthy abatement in the practical ( $p = 0.018$ ) and enthusiastic ( $p = 0.030$ ) subscale scores, just as in the complete DHI ( $p = 0.038$ ) score. This study also supports our study as  $p$ -value after independent t-test was less than 0.05 in medication group as compared to without medication.

## CONCLUSIONS

Anxiety is very important feature in all patients of vertigo. The proper evaluation of anxiety and cause of vertigo should be done on first visit of patient. The patients must be treated according to cause of vertigo along with anxiolytics. This practice will improve the patient care and decrease the emotional instability of patients.

**Conflict of Interest:** None.

## Authors' Contribution

MWA: Direct contribution, data collection, MSASB: Data analysis, MR: Data collection, proof reading, AW: Data collection, typing, proof reading, BHK: Data collection, AN: Proof reading.

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