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FREQUENCY AND CLINICAL PATTERNS OF VERTIGO:
(A personal encounter at a private healthcare clinic)

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ABSTRACT

Background: Vertigo, a sensation of spinning or dizziness, is a common yet under recognized complaint in medical practice. It is associated with significant morbidity and impacts quality of life. Early diagnosis and management depend on proper clinical recognition of its subtypes.

Objective: This study aimed to assess the prevalence, clinical features, and etiological subtypes of vertigo among patients presenting to a private clinic.

Methods: A cross-sectional study was conducted to explore the 100 patients presenting with vertigo who were evaluated through structured interviews, clinical examination, and relevant investigations. Data were collected using a pre-tested questionnaire and analyzed using descriptive statistics and chi-square tests.

Results: The mean age of participants was 45.3 ± 13.2 years. Females (62%) were more commonly affected than males (38%). The most prevalent type of vertigo was benign paroxysmal positional vertigo (BPPV) (42%), followed by vestibular migraine (21%), Meniere's disease (16%), and central vertigo (11%). Anxiety-associated vertigo was seen in 10% of cases. A significant association was observed between age group and type of vertigo ($p < 0.05$). BPPV was more frequent among older individuals, whereas vestibular migraine and anxiety-related dizziness were more common in younger adults.

Conclusion: Vertigo is a frequent presenting complaint in clinical settings in Pakistan, predominantly due to peripheral causes such as BPPV. Awareness about its types and risk factors can facilitate early diagnosis and improve patient outcomes.

Keywords: Vertigo, BPPV, vestibular migraine and dizziness

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INTRODUCTION:

Vertigo, which includes the sensation of movement or spinning and subjective dizziness, is a frequent complaint in clinical practice. Worldwide, approximately 20–30% of the population is affected at some point in their lives, with a heterogeneous group of aetiologies, from benign peripheral vestibular disorders to life-threatening central nervous system pathologies [1]. In Pakistan, the vertigo gets commonly underdiagnosed or mislabelled, owing to the scarcity of otoneurological services and diagnostic aids.

Besides the burden of the vertigo disease on physical health, there are also psychological, social and economic implications. Patients with persistent vertigo generally suffer from anxiety, depression, isolation and diminished productivity [2]. However, despite several studies done internationally on vertigo, little is known about vertigo in the local Pakistani context, and only a few hospital-based studies have evaluated its epidemiology and clinical subtypes.

Benign paroxysmal positional vertigo (BPPV), vestibular neuritis, and Meniere's disease are predominantly peripheral cause [3]. Central etiologies are cerebrovascular disease, multiple sclerosis, and VS migraine [4]. Moreover, functional and psychogenic vertigo are more and more acknowledged, especially in younger patients [5].

The prevalence and clinical features of vertigo have not been studied locally thus this study was conducted to address the void in local data among patients visiting at clinic. Knowledge of these appearance and risk factors may be helpful for increasing the rate of correct diagnosis and treatment.

MATERIALS AND METHODS:

Study Design and Setting

This was a hospital-based cross-sectional study conducted at private clinic, from Feb to Apr 2025.

Sample Size

A total of 100 patients presenting with vertigo as a chief complaint were enrolled through non-probability consecutive sampling.

Inclusion Criteria:

• Patients aged ≥18 years
• Presenting with vertigo (lasting >1 minute)
• Willing to provide informed consent

Exclusion Criteria:

• Patients with confirmed cardiovascular syncope
• Patients with metabolic causes of dizziness (e.g., hypoglycemia)
• Those with hearing impairment unrelated to vertigo

Data Collection Tool

A structured questionnaire was used; including A structured questionnaire was applied with the following: demographic information; clinical history; beginning and duration of autophony; accompanying symptoms (nausea, vomiting, hearing loss, tinnitus) and previous diagnosis. Medical history was taken and clinical examination included Dix-Hallpike test, neurologic examination and audiometry (if required). Central causes were suspected and MRI and CT scans were performed.

Data were analyzed using SPSS. Categorical variables were reported as frequencies and proportions, while continuous variables as means and standard deviations. Associations were investigated by Chi-square test and a p value ≤ 0.05 defined statistical significance.

RESULTS:

Demographic Characteristics

Out of the 100 patients:
62% were female
38% were male
Mean age: 45.3 ± 13.2 years
Age distribution:
- 18-30 years: 24%
- 31-50 years: 47%
- 50 years: 29%

Table 1: Types of Vertigo Identified

Type of Vertigo	Frequency (%)
BPPV	42
Vestibular migraine	21
Meniere's disease	16
Central vertigo (e.g., stroke, MS)	11
Anxiety-related/functional	10

BPPV was the most common type, often associated with positional change. Vestibular migraine was more common in females under 40, often accompanied by headache and photophobia.

Associated Symptoms

- Nausea/vomiting: 61%
- Tinnitus: 23%
- Hearing loss: 19%
- Headache: 25%
- Visual disturbance: 14%

Risk Factors

- Hypertension: 31%
- Diabetes mellitus: 22%
- Migraine history: 19%
- Smoking: 16%
- Recent infection (URTI): 12%

Age and Type Correlation:

There was a significant association between age group and type of vertigo ($p = 0.031$). BPPV was more frequent in patients over 50, while vestibular migraine and anxiety-related vertigo were common in younger adults

DISCUSSION:

This study showed a significant occurrence of BPPV among patients presented at private clinic which correlated with international studies [6]. The female predominance is consistent with other studies and perhaps due to differences in hormone and vestibular sensitivity [7].

The high prevalence of vestibular migraine in this study demonstrates the necessity of the inclusion of migraine variants in neurologists' and primary physicians' differential diagnoses of vertigo [8]. Migraine associated vertigo which is common among young women may get unnoticed or mistaken for psychogenic.

Meniere's disease comprised 16% of cases, which is commensurate with the literature, and was characterized by episodic vertigo associated with fluctuating hearing loss and tinnitus [9]. The most common central etiologies were cerebellar infarcts and demyelinating lesions, which were uncommon but potentially severe and required early recognition [10].

Dizziness due to anxiety, which is increasingly appreciated in contemporary vestibular practice, is one form of functional/psychogenic vertigo. Our incidence rate of 10% corresponds to a worldwide surge of psychosomatic reportings, especially in the urban and younger age groups [11].

Their co-morbid presentation with hypertension, diabetes, -migraine serves as additional reinforcement for their probable involvement in the pathogenesis of vertigo [12]. Such diagnoses need to be systematically ruled out during the workup of dizzy patients.

A limitation of our study is the hospital-based design of recruitment that may not reflect the real community prevalence of vertigo. Additionally, more advanced diagnostic tools like VNG or VEMP were not performed for every patient due to a lack of resources..

CONCLUSION:

Vertigo is an important clinical problem in the Pakistani health scenario and peripheral causes are more common, of which BPPV is the most common cause. Vestibular migraine and functional dizziness are common in young adults. A correct diagnosis, an adequate classification and an early treatment plays a key role for the improved management of the patient and for the decreased fertility. Additional population-based studies are warranted to determine the overall epidemiological significance.

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