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Original Article

Clinical Profile of Dizziness in a Tertiary Care Center: A Prospective Study from Western Nepal

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ABSTRACT:

Introduction: Dizziness is a common problem in clinical practice. It can be caused by many conditions affecting the ear, brain, mind, or other body systems. Finding the exact cause is often hard because patients describe their symptoms in different ways. Our aim was to study who gets dizziness, what symptoms they have, and what causes it in patients coming to our ENT center.**Methods:** We did this study in the ENT outpatient department of from July 2025 to April 2026. We included 150 adult patients with dizziness. We took detailed history, did clinical examination, and ordered relevant tests to find the cause.**Results:** Of the 150 patients enrolled, 88 (58.67%) were female. Dizziness was the predominant presenting symptom, with non-specific dizziness reported most frequently (40.67%), followed by true vertigo (34.67%) and imbalance (24.67%). Audiovestibular comorbidities were common with hearing in 43.33%. On examination, nystagmus was observed in 44.0% of cases, and the Dix-Hallpike maneuver was positive in 35.33%. Peripheral vestibulopathy constituted the largest diagnostic category, accounting for 59.33% of all cases. Among specific etiologies, benign paroxysmal positional vertigo (BPPV) was the most frequent diagnosis (35.33%), followed by Ménière's disease (12.67%) and vestibular neuritis (8.0%).**Conclusion:** Peripheral vestibular disorders were the most common cause of dizziness. BPPV was the leading diagnosis. Knowing the demographic and clinical features helps in making accurate diagnosis and giving proper treatment. More studies in multiple centers with larger numbers are needed to better understand dizziness in different populations.

Keywords: Benign Paroxysmal Positional Vertigo; Dizziness; Tertiary Care Center; Vestibular Disorders.

INTRODUCTION:

Dizziness is a very common symptom that affects many people worldwide. It can feel different for different people. Some feel like spinning or whirling (this is called vertigo). Others feel unsteady (imbalance) or just lightheaded.[1] Because this symptom is so common, it is often hard to diagnose correctly.

It is important to know that "dizziness" itself is not a disease. It is just a symptom.[2] This means its causes are many and varied. The problems can come from two main areas. One is the peripheral vestibular system (problems in the inner ear or the nerves going from it). The other is the central nervous system (problems in the brain and its pathways).

Diagnosing the cause needs careful examination. Different conditions like Benign Paroxysmal Positional Vertigo (BPPV), Ménière's disease, and labyrinthitis can have similar symptoms.[3] Also, the causes can change with age. For example, age itself is a major factor that leads to different types of dizziness in older people.[4] This shows that a good diagnostic approach must look at everything and be suited to each patient.

There is a lot of medical literature on this topic. But local data is very important. Local studies help us understand the pattern and type of dizziness common in our own community.[4,5] This detailed regional information is needed to plan better treatment and improve patient care in our area. In many cases, the best way to rule out a life-threatening condition is to confirm a peripheral vestibular disorder.[6]

Because of this clinical complexity, we felt a need to study dizzy patients at our institution. So, we did this study to look at both the demographic features and the different clinical types of dizziness in patients coming to Lumbini medical college. Our main goal was to provide local data that can help in making better diagnostic plans and improving patient care in our setting.

METHODS:

We used a hospital-based, prospective observational descriptive design. We

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collected data at the Outpatient Department (OPD) of Lumbini Medical College and Teaching Hospital. We collected data from July 2025 to April 2026. We included all patients who came with complaints of dizziness or vertigo during this time.

Before starting the study, we got written ethical clearance from Institutional Review Committee of Lumbini Medical College (IRC-LMC) with protocol number 06/25/0000.01. We took consent from all patients who took part.

We included 150 patients with dizziness in the study (N = 150) according to the number of patients we encountered last year. We used a non-probability purposive sampling method to select patients who met our criteria.

Adult patients who were 18 years of age or older with vertigo or generalized dizziness were inculded in the study. Patients who could not communicate well or who refused to give consent were exculed.When a patient came to the ENT OPD with dizziness, we did a step-by-step evaluation. This had three stages. First, we took a full history from each patient. This was the main diagnostic tool for most patients. Second, we did relevant physical examinations to check vestibular function and neurological status. And finally, we did relevant tests like pure tone audiogram, blood investigations and CT/MRI.

Based on the history, examination findings, and test results, we diagnosed and grouped patients into different types: true rotary vertigo, ataxia, chronic subjective vertigo, and others. We then planned management accordingly. We recorded all data carefully on a standard paper form. Then we entered the data into Microsoft Excel 2007 and analyzed it using PSPP version 2.1.1. We used descriptive statistics to summarize the demographic and clinical features of the patients.

RESULTS:

We included 150 patients in this study. They all came with dizziness to our tertiary care center during the study period. All the descriptive findings of the participants are included in Table 1. Most patients were female. The largest group was from Palpa district, followed by Syangja.

Non-specific dizziness was the most common main complaint, followed by true rotatory vertigo. The duration of symptoms varied a lot, with the smallest group having symptoms lasting hours. We also noted other symptoms. Hearing loss was found in almost half of the participants. Tinnitus was reported by about one-fourth. Nausea and/or vomiting was seen in almost half of the patients. Light-headedness was less common. Seizure-like movements were more common than light-headedness. Focal neurological deficits were present in a small sub-group of participants.

On examination, the tympanic membrane was normal in most cases. Vestibular testing showed some abnormal findings; nystagmus was present in nearly half of the participants. Horizontal nystagmus was the most common type. Gait was normal in the majority of the participants. Similarly, Romberg's test was negative in the majority. The Dix-Hallpike test was positive in about one-third.

Tuning fork tests were normal in almost three-quarters. But pure tone audiometry showed hearing problems in almost half. Sensorineural hearing loss (SNHL) was found in about half of those having hearing loss.

After final assessment, Labyrinthine Vertigo was the most common diagnosis, occurring in more than half of the participants. The other diagnoses were Ataxia and Chronic subjective vertigo in descending frequency. Looking at specific causes, Benign Paroxysmal Positional Vertigo (BPPV) was the most common, occurring in about one-third of the participants. Other causes were Meniere's disease, vestibular neuritis, and labyrinthitis in decreasing frequencies.

Most patients were managed by the ENT department. Others were managed by neurology or neurosurgery, psychiatry, and other departments.

DISCUSSION:

Dizziness and vertigo are very common but hard to diagnose. This is because they have many causes. These include problems in the vestibular system, brain-stem, brain, mind, and other body systems.[7,8] Our main aim was to study the demographic profile, clinical features, and diagnoses of dizziness and vertigo in patients coming to our tertiary care hospital.

We found more females than males in our study. Females made up about 1.5 times of males. This matches what other studies have found.[8-11] They also show that vestibular disorders and BPPV are more common in women. Some reasons could be hormonal changes, more migraines in women, and perhaps women seeking healthcare more often. Also, most patients came from Palpa district. This shows that our hospital acts as a referral center for the region. It also shows that access to specialized care may vary across nearby communities.

The symptoms were varied. Non-specific dizziness was the most common. True vertigo was next and then imbalance. This shows how hard it is to diagnose dizziness. Patients often cannot describe their symptoms clearly. The duration of symptoms also varied a lot. Some had symptoms for seconds and others for days. This suggests both acute and chronic vestibular problems were present.

Our clinical examination pointed to peripheral causes in most patients. Most patients had normal tympanic membranes. But many had ear-related symptoms like hearing loss and tinnitus. They also had neurological symptoms. This is typical of complex vestibular problems. It matches what Qi P et al. found.[11] Nausea and vomiting were also common. This is also typical

Table 1. Distribution of Clinical and Demographic Characteristics of Patients Presenting with Dizziness at a Tertiary Care Center (N = 150)

Variables	Characteristics	n(%)
Gender	Male	62(41.33%)
	Female	88(58.67%)
Address	Arghakhanchi	2(1.33%)
	Baglung	2(1.33%)
	Gulmi	14(9.33%)
	Palpa	108(72%)
	Rupandehi	6(4%)
	Synagja	18(12%)
Vertigo type	True rotatory vertigo	52(34.67%)
	Imbalance	37(24.67%)
	Dizziness non-specific	61(40.67%)
Vertigo duration	Seconds	55(36.67%)
	Hours	39(26%)
	Days	56(37.33%)
Hearing loss	Absent	85(56.67%)
	Present	65(43.33%)
Tinnitus	No	107(71.33%)
	Yes	43(28.67%)
Nausea/vomiting	No	90(60%)
	Yes	60(40%)
Light-headedness	No	143(95.33%)
	Yes	7(4.67%)
Seizure-like movement	No	131(87.33%)
	Yes	19(12.67%)
Focal neurological	No	125(83.33%)
	Yes	25(16.67%)
Tympanic membrane	Normal	145(96.67%)
	Dull/ retracted	5(3.33%)
Nystagmus presence	Absent	84(56%)
	Presence	66(44%)
Nystagmus type	Horizontal	65(43.33%)
	Vertical	01(0.67%)
	Not seen	84(56%)
Tuning fork test	Normal	115(76.67%)
	CHL	3(2%)
	SNHL	32(2133%)
Gait	Normal	128(85.33%)
	Abnormal	22(14.67%)
Romberg test	Negative	127(84.67%)
	Positive	23(15.33%)
Dix-Hallpike test	Negative	97(64.67%)
	Positive	53(35.33%)
PTA	Not done	85(56.67%)
	SNHL absent	33(22%)
	SNHL present	32(21.33%)
Final diagnosis	Labyrinthine Vertigo	89(59.33%)
	Ataxia	21(14%)
	Chronic subjective vertigo	12(8%)
	Others	28(18.67%)
Specific diagnosis	BPPV	53(35.33%)
	Meniere's disease	19(12.67%)
	VN	12(8%)
	Labyrinthitis	5(3.33%)
	Others	61(40.67%)
Treatment	ENT	89(59.33%)
	Neurology/ Neurosurgery	24(16%)
	Psychiatry	12(8%)
	Others	25(16.67%)

of vestibular problems.[12] But Shaharami A et al. found nausea and vomiting in 88.39% of their patients.[13] This was higher than our study. So, we need more studies with larger numbers to understand this difference.

Some specific tests strongly pointed to a peripheral cause. We saw horizontal nystagmus in 44% of cases. This suggests inner ear problems rather than brain problems. Brain problems often show vertical or complex nystagmus. Dix-Hallpike Test was positive in 35.33% of patients. This means many had Benign Paroxysmal Positional Vertigo (BPPV). This matches global data showing BPPV as the most common cause of vertigo. Other studies by Meher et al.[10] and Sarkar et al.[12] also found this. Tuning fork tests were normal in about three quarters of the patients. This shows a wide range of pathology. But pure tone audiometry suggested sensorineural hearing loss in 21.33%. This points to significant peripheral involvement. However, we could not do routine audiometric testing in all patients. This limits how well we could characterize vestibular function.[14]

Looking at the final diagnoses, labyrinthine vertigo was the most common group. Among specific causes, BPPV was the leading diagnosis, presenting in about one-third of the patients. Ménière's disease was next and then vestibular neuritis. All this strongly suggests that peripheral vestibular disorders are the main cause of dizziness in our tertiary care population. This agrees with studies like. Neuhauser HK et al.[15]

The referral pattern also supports this. ENT managed 59.33% of patients. This shows that peripheral problems are usually first seen by ENT. Neurology

and psychiatry saw smaller numbers (16% and 8% respectively). But we must be careful. We found focal neurological deficits in 16.67% of patients and seizure-like symptoms in 12.7%. This means that even though peripheral causes are common, we must always consider central or other causes. Similarly, most patients had normal gait. But some had abnormal findings. This reminds us to always look for neurological causes too.[16]

Limitations:

Our study shows that BPPV is the main cause of dizziness in our tertiary care setting. But there are some limitations. First, this is a single-center study. So, the results may not apply to other places. Second, it is a hospital-based study. So, there may be selection bias. Third, we could not do complete diagnostic tests in all patients. For example, we could not do caloric testing or complete audiometric assessments in everyone. This limited how well we could characterize the vestibular problems.

CONCLUSION:

Diagnosing dizziness is complex, but our data clearly shows that peripheral vestibular disorders, especially BPPV, are the main cause of dizziness in our tertiary care population. This is supported by the high rates of labyrinthine vertigo, horizontal nystagmus, and positive Dix-Hallpike test, along with the predominance of ENT referrals. However, we must be cautious due to limitations like incomplete audiometry in some patients. Our findings highlight the need for a systematic, multidisciplinary approach involving ENT, audiology, and neurology to ensure accurate diagnosis and proper patient care.

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