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The Mediating Role of Coping Strategies in the relationship between Vertigo Severity and Psychological Distress in Vestibulocochlear Patients: A Cross-Sectional Study

Dr. Ammar Ahmed

Abstract

Background: Tinnitus and vertigo, common symptoms of vestibulocochlear disorders, are frequently associated with heightened levels of stress, anxiety, and depression. However, limited research has explored the psychological mechanisms underlying this relationship, particularly the role of coping strategies as mediators. This study aimed to examine the associations among vertigo severity, stress, anxiety, depression, and coping strategies in patients with vestibulocochlear disorders, and to investigate whether coping strategies mediate the relationship between vertigo and psychological distress.

Method: A cross-sectional research design was employed, utilizing a purposive sampling technique to recruit a sample of 202 clinically diagnosed patients experiencing tinnitus and vertigo (M = 46.14 years, SD = 16.64), ranging in age from 18 to 89 years. Participants were selected from Audiology and Ear, Nose, and Throat (ENT) departments in various hospitals across Rawalpindi and Islamabad, Pakistan, between January and October 2023. Standardized and validated self-report instruments were administered to assess the severity of vertigo, levels of psychological distress (including stress, anxiety, and depression), and the coping strategies employed by the patients.

Results: The findings of the study demonstrated a significant positive correlation between vertigo severity and psychological distress (i.e., stress, anxiety, and depression) among patients with vestibulocochlear disorders. Furthermore, vertigo severity was positively associated with greater utilization of religious coping strategies. Mediation analysis indicated that specific coping mechanisms particularly emotion-focused coping partially mediated the relationship between vertigo severity and adverse mental health outcomes.

Conclusions: The findings underscore the mediating role of coping strategies in the link between vertigo and psychological distress. These results highlight the importance of incorporating coping-focused psychological interventions to alleviate mental health symptoms in patients with vestibulocochlear disorders.

Keywords: Vertigo patients, tinnitus patients, coping strategies, anxiety, depression, stress, vestibulocochlear disorders

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Background

Vertigo, a common symptom of vestibulocochlear dysfunction, has been widely documented for its debilitating impact on both physical and psychological health. Characterized by a false sensation of movement, vertigo is often accompanied by nausea, postural instability, gait disturbances, and an elevated risk of falls especially in older adults (Bigelow et al., 2015; Jahn et al., 2015). Emerging evidence also suggests that vertigo is associated with a range of cognitive impairments, including deficits in visuospatial skills, working memory, attention, and executive functioning (Kozak et al., 2018; Jacobson et al., 2018). Additionally, a growing body of literature has established a significant comorbidity between vertigo and psychological conditions such as anxiety, depression, panic disorder, and stress-related disorders (Radziej et al., 2018; Zur et al., 2015; Çeliker et al., 2017).

Despite the evident burden of these comorbid psychological disturbances, they often remain under-recognized and untreated in clinical settings (Ferrari et al., 2014; Kahraman et al., 2017). This under-treatment contributes to chronic disability, impaired quality of life, and heightened emotional distress among vestibular patients (Porter & Boothroyd, 2015; Tyrrell et al., 2015). The pathophysiology of vestibulocochlear disorders, including vertigo and sudden sensorineural hearing loss (SHL), remains debated, with etiological hypotheses ranging from viral neuritis to vascular insufficiency and autoimmune dysfunctions (Chang et al., 2018; Rauch, 2018). Importantly, dysfunctions of the cochleovestibular nerve are believed to underlie the concurrent manifestation of vertigo, tinnitus, and hearing loss (Carlsson et al., 2015; Rizk et al., 2017).

Notably, women are disproportionately affected, reporting higher levels of dizziness-related anxiety, depression, and somatic symptoms than men, although symptom severity does not significantly differ across genders (Kuo et al., 2017; Gacek, 2016). Age-related differences have also been observed, with older adults more likely to report unsteadiness and brief spinning sensations, while adolescents predominantly report continuous vertigo episodes (Lee et al., 2017; Mueller et al., 2014).

Recent cognitive-behavioral frameworks have offered promising insights into the psychopathology of vertigo, suggesting parallels with panic and anxiety disorders, where conditioned responses to interoceptive cues exacerbate avoidance behaviors and emotional dysregulation (Edelman et al., 2012; Whalley & Cane, 2017). Psychological distress in vestibular patients may, therefore, not only be a consequence but also a maintaining factor of vestibular dysfunction (Fitzpatrick & Watson, 2016; Jung & Kim, 2016).

Given the multidimensional nature of vertigo encompassing sensory, cognitive, and emotional domains there is a critical need to examine the interplay between vertigo severity, psychological distress, and mediating coping strategies. The present study aims to address this gap by investigating the mediating role of coping mechanisms in the relationship between vertigo severity and psychological distress among patients with vestibulocochlear disorders. This research holds the potential to inform integrative treatment approaches, combining neuro-otological care with psychological interventions, such as cognitive-behavioral therapy, to improve patient outcomes.

Method

Research design

The present study employed a cross-sectional research design, with participants selected through purposive sampling. The primary objective was to investigate the relationship between psychological distress specifically, stress, anxiety, and depression and key physiological and psychosocial variables among patients diagnosed with vestibulocochlear disorders. Variables of interest included vertigo, hearing impairment, and coping strategies.

Objectives

1. To examine the associations among coping strategies, vertigo, anxiety, stress, and depression in patients diagnosed with vestibulocochlear disorders.
2. To investigate the mediating role of coping strategies in the relationship between vertigo and psychological outcomes (stress, anxiety, and depression) among patients with vestibulocochlear disorders.

Hypotheses

1. Vertigo will be positively associated with anxiety, depression, and stress in individuals with vestibulocochlear disorders.
2. Religious coping and active avoidance coping strategies will be positively correlated with vertigo, anxiety, depression, stress, and both positive and negative affect.
3. Problem-focused and positive coping strategies will be negatively correlated with vertigo, anxiety, depression, stress, and both positive and negative affect.
4. Religious and active avoidance coping strategies will have a positive predictive effect on the severity of vertigo, tinnitus, anxiety, depression, stress, and both positive and negative affect.
5. Problem-focused and positive coping strategies will have a negative predictive effect on vertigo, tinnitus, anxiety, depression, stress, and both positive and negative affect.

Sample

A purposive sample of 202 clinically diagnosed patients experiencing tinnitus and vertigo were recruited from ENT and Audiology departments of hospitals and clinics in Rawalpindi and Islamabad, Pakistan, between January and October 2023. The sample included 142 males (70.3%) and 60 females (29.7%), with an age range of 18 to 89 years (M = 46.14, SD = 16.64). Inclusion criteria required patients to have experienced vertigo and tinnitus for at least three months. Symptom distribution showed that 64% had unilateral tinnitus**,** 27% had bilateral tinnitus**,** and 9% experienced isolated vertigo. Notably, 86% reported co-occurring vertigo and tinnitus. Hearing assessment indicated that 17% had normal hearing, 44% had moderate hearing loss, 35% had moderate-to-severe hearing loss, and 5% had profound hearing loss.

Instruments

Dizziness Handicap Inventory (DHI).

Dizziness Handicap Inventory (DHI; Newman, 1990; Perez, 2001) is a self-reporting twenty five item scale, the purpose of this scale is to evaluate vertigo or dizziness that can be used to screen and evaluate patients according to the severity of their disorder due to the vestibular system disease. All the items are rated on a three-point likert scale. A high overall score reveals a more severe handicap. According to Perez (2001) the DHI scale is further classified into three categories of Vestibular Handicap, Vestibular Disability and Visuo-vestibular disability (Perez et al., 2001). The subscale items are: 1.Vestibular Handicap (14-Items): 7,20,16,9,3,6,21,14,24,2,18,23,10,22,2.Vestibular Disability (6-Items):17,12,15,1,4,19**,** 3.Visuo vestibular disability (5-Items): 25,11,13,5,8. The vestibular handicap subscale assesses if the person experiences loss of position sense along with a sudden feeling of dizziness which can be continuous or may arise in convulsive attacks. The vestibular disability subscale assesses and measures the level of mental and physical difficulty a person faces while performing a certain task. The Visuo vestibular disability measures motion difficulties due to visually-induced dizziness (Perez et al., 2001).Prior studies related to the psychometric robustness of DHI have reported internal consistency of (α=0.92) for the overall scale and test retest reliability of subscale ranges between 0.74 to 0.87 (Jacobson & Newman, 1990a; Perez et al., 2001). This inventory was back to back translated for this current study to Urdu language (Setion-1). In the present study, the Cronbach alphas were 0.95 for Vestibular Handicap, for 0.89 Vestibular Disability and 0.87 for Visuo vestibular disability.

Brief COPE (COPE-Brief Version). The brief cope (COPE; Carver, 1997; Hastings et al.,2005; Akhtar, 2005) is a scale developed to measure coping functioning during a stressful, unpleasant or difficult situations. Brief cope is an abbreviated form of COPE inventory developed by Carver (1997) and it comprises on 28 items in total. As proposed by Hastings et al. (2005) this scale has been divided into four subscales: Problem Focused, Active Avoidance, Religious and Positive coping strategies (Hastings et al., 2005).

1. Problem Focused Coping (7-Items): 15, 17, 12,18,28, 20, 24
2. Active Avoidance Coping (10-Items): 4, 9, 6, 11, 1, 16, 13, 26,19, 21
3. Religious/Denial Coping (4-Items): 22, 8,27,3
4. Positive Coping (7-Items): 5, 2, 10, 7, 25,15, 14,

Responses are given on a four point likert scale ranging from "Never" to "a lot". The high score on a particular subscale indicates more use of that specific coping strategy and similarly low score indicates less reliance on that coping strategy (Akhtar, 2005; Carver, 1997; Hastings et al., 2005). The internal consistency of this scale is 0.78 for active avoidance coping, 0.82 for problem focused coping, 0.68 for positive coping and 0.73 for religious coping (Hastings et al., 2005).In the present study the Cronbach alpha was 0.73 for the problem focused coping, 0.50 for religious coping, 0.62 for positive coping and 0.74 for active avoidance coping.

Ethical Considerations

The study was administered according to the World Medical Association Declaration of Helsinki and was permitted by the board of Ethics Committee of the University and Department of Psychology, Foundation University (Approval Number FURCPSY: AA/6/2017). Only standardized questionnaires were exclusively used, which were ethically and culturally acceptable. Each participant in the study gave written informed consent for participating in the study and knew beforehand the implication of exposure to situations unsafe to hearing.

Procedure

This study was carried out in Audiology and E.N.T departments of various hospitals and clinics of Islamabad and Rawalpindi. Each participant in the study gave written informed consent for participating in the study and knew before hand the implication of exposure to situations unsafe to hearing, also co morbidities of other diseases were consulted through a detailed medical history and prior imaging test results from other institutions. Afterwards they were asked to give responses on a range of measures designed to assess psychological responses to vertigo and tinnitus. The order of psychological measures was randomized for every participant. Lastly, an audiometric test battery was administered; this included hearing evaluation, tympanometry, acoustic reflexes and videonystagmography. The psychological and audiological assessments took around 40 minutes per subject to complete.

The ear examination was performed with DelfinoTM wireless video otoscope, audiometry was performed by Interacoustic AD-226 Audiometer. Tympanometry was performed by Flute middle ear analyzer. All the audiological data was gathered in a sound treated room with the IEC 60646-1 compliant equipment along with updated calibrations.

Data Analysis Plan

Current study is designed to explore the relationship between malingering, coping styles, vertigo, tinnitus, anxiety, stress, depression and mood affect among vestibulocochlear disorder patients .Statistical analyses such as descriptive stats, group differences, and Pearson Product Correlation analyses were performed to evaluate the data by employing SPSS Version 20. Structural equation modeling (SEM) based on AMOS 20 statistical package was employed to investigate the goodness of fit measurements, for confirmatory factor analysis and other hypothesized models in the current study. Also maximum likelihood method was utilized to estimate the proposed models (Arbuckle, 2013).

Results

Table 1 presents the internal consistency of all psychometric instruments utilized in the present study, assessed using Cronbach's alpha coefficients. The Dizziness Handicap Inventory (DHI) exhibited excellent internal reliability, with an overall Cronbach's alpha of α = .97. Its subscales also demonstrated strong internal consistency: Vestibular Handicap (α = .95), Vestibular Disability (α = .89), and Visuo-Vestibular Disability (α = .87). These coefficients confirm the psychometric robustness of the DHI and its subscales for use in the current population.

Similarly, the Depression, Anxiety, and Stress Scale (DASS) showed outstanding internal reliability, with an overall alpha of α = .98. Subscale alphas were also high: Depression (α = .95), Anxiety (α = .94), and Stress (α = .94). The *Brief COPE Inventory* yielded an acceptable overall reliability (α = .88). Among its subscales, Problem-Focused Coping (α = .82) and Active Avoidance Coping (α = .74) demonstrated good reliability. Positive Coping showed acceptable reliability (α = .62), whereas Religious Coping showed comparatively low internal consistency (α = .50), potentially due to the limited number of items. Nevertheless, the subscale was retained due to its conceptual relevance and the overall reliability of the scale.

Pearson correlation analyses revealed that the DHI total score was significantly and positively correlated with its subscales: Vestibular Handicap (r = .98, $p < .001$), Vestibular Disability (r = .94, $p < .001$), and Visuo-Vestibular Disability (r = .95, $p < .001$). The DHI was also positively associated with the Tinnitus Handicap Inventory total score (r = .38, $p < .001$) and its subdomains: Functional (r = .35, $p < .001$), Emotional (r = .37, $p < .001$), and Catastrophic (r = .35, $p < .001$).

Furthermore, DHI scores were significantly positively correlated with total psychological distress as measured by the DASS (r = .19, $p < .001$), as well as with its Depression (r = .24, $p < .001$), Anxiety (r = .15, $p < .05$), and Stress (r = .15, $p < .05$) subscales. These findings provide empirical support for Hypothesis 2, affirming that increased vertigo severity is significantly associated with heightened levels of psychological distress among individuals with vestibulocochlear disorders.

In terms of coping strategies, the total DHI score exhibited a nonsignificant negative correlation with the total Brief COPE score (r = –.08, n.s.). However, DHI was significantly and negatively correlated with Problem-Focused Coping (r = –.21, $p < .001$) and Positive Coping (r = –.21, $p < .001$). Correlations with Religious Coping (r = –.04, n.s.) and Active Avoidance Coping (r = .11, n.s.) were nonsignificant. Similarly, the association between DHI and Hearing Impairment was nonsignificant (r = –.05, n.s.). These results provide partial support for Hypotheses 4 and 5, indicating that problem-focused and positive coping strategies may buffer against vertigo-related distress, whereas religious and avoidance-based strategies appear less predictive of psychological outcomes in this context.

Mediation Analysis

Table 2 presents the results of a structural equation modeling (SEM) analysis conducted to examine the mediating role of various coping strategies in the relationship between vertigo severity and psychological distress. The model demonstrated an acceptable fit to the data: $\chi^2(16) = 69.257$, $p < .001$; $\chi^2/df = 4.329$; RMSEA = .09; CFI = .98; NFI = .97; IFI = .98; TLI = .93.

The predictive pathways accounted for 20% of the variance in Problem-Focused Coping, 9% in Religious Coping, 26% in Positive Coping, and 7% in Active Avoidance Coping. In terms of psychological outcomes, the model explained 25% of the variance in Stress and 21% each in Anxiety and Depression.

Path analysis revealed that Vestibular Handicap significantly and negatively predicted Positive Coping (β = –.33, $p < .001$). Vestibular Disability emerged as a significant positive predictor of Religious Coping (β = .61, $p < .001$), Positive Coping (β = .89, $p < .001$), and Problem-Focused Coping (β = .74, $p < .001$). Conversely, Visuo-Vestibular Disability significantly and negatively predicted Religious Coping (β = –.64, $p < .001$), Positive Coping (β = –.88, $p < .001$), Problem-Focused Coping (β = –.94, $p < .001$), and Active Avoidance Coping (β = –.48, $p < .001$).

Regarding psychological distress, Religious Coping was a significant negative predictor of Anxiety (β = –.33, $p < .001$) and Depression (β = –.12, $p < .01$), indicating its potential protective role. Unexpectedly, Positive Coping was associated with increased levels of Anxiety (β = .39, $p < .001$), Depression (β = .23, $p < .01$), and Stress (β = .30, $p < .001$), suggesting potential maladaptive aspects of this strategy within this clinical context. Active Avoidance Coping also positively predicted Anxiety (β = .28, $p < .001$), Depression (β = .35, $p < .01$), and Stress (β = .27, $p < .001$), aligning with its typically detrimental role in psychological adjustment.

Overall, the results confirm that coping strategies including Religious, Positive, Problem-Focused, and Active Avoidance Coping fully mediated the relationship between vertigo severity and psychological distress (i.e., anxiety, depression, and stress). These findings support the second objective of the study, underscoring the critical mediating role of coping mechanisms in the vertigo-mental health nexus. The results highlight the need for targeted psychological interventions that account for individual differences in coping styles to mitigate the psychological burden in patients with vestibulocochlear disorders.

Discussion

This study examined the intricate associations among vertigo severity, psychological distress (comprising anxiety, depression, and stress), and coping strategies in patients diagnosed with vestibulocochlear disorders. Additionally, it investigated the mediating role of coping strategies in the relationship between vertigo severity and adverse psychological outcomes.

Consistent with Hypothesis 1, the findings revealed significant positive associations between vertigo severity and elevated levels of psychological distress. These results corroborate an expanding body of literature indicating that vestibular dysfunction—including chronic vertigo and tinnitus—is frequently comorbid with psychiatric symptoms, particularly mood and anxiety disorders (Durai & Searchfield, 2016; Hébert et al., 2017; Manchaiah et al., 2017; Probst et al., 2016). This association likely reflects the cumulative burden imposed by persistent physical symptoms, diminished functional capacity, and the existential uncertainty experienced by individuals with chronic vestibular conditions (Ahmed et al., 2017; Chen et al., 2017; Sailesh et al., 2016).

With respect to coping strategies, neither religious coping nor active avoidance coping demonstrated a significant direct association with vertigo severity. However, both were positively correlated with psychological distress, suggesting that these coping mechanisms—although frequently employed—may not effectively attenuate emotional suffering and may in fact reinforce maladaptive cognitive-emotional processes. In contrast, problem-focused and positive reframing coping strategies exhibited inverse relationships with anxiety, depression, and stress, though their direct impact on vertigo severity was negligible.

Table 1

Correlation matrix, cronbach's alpha reliability *mean and standard deviation,* among vertigo severity, stress, anxiety, depression, and coping strategies *along with subscales of Vestibulocochlear(N=202)*

Variables	M	S.D	α	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.DHI	64.15	28.61	0.97	-	.98**	.94**	.95**	.19**	.24**	.15*	.15*	-.08	-.21**	-.04	-.21**	.11	-.05
2.V_HC	35.26	16.10	0.95		-	.89**	.90**	.17*	.23**	.13	.14	-.08	-.21**	-.05	-.23**	.12	-.09
3.V_DY	13.31	6.42	0.89			-	.89**	.23**	.26**	.21**	.20**	.03	-.10	.04	-.05	.14*	-.03
4.V_V_DY	15.58	7.10	0.87				-	.16*	.22**	.15*	.10	-.17*	-.28**	-.10	-.27**	.03	.03
5.DASST	54.67	29.93	0.98					-	.98**	.96**	.96**	.41**	.39**	.14*	.37**	.41**	-.10
6.DASSD	17.87	10.88	0.95						-	.91**	.92**	.39**	.36**	.14*	.33**	.42**	-.11
7.DASSA	17.33	9.87	0.94							-	.88**	.31**	.32**	.01	.31**	.35**	-.12
8.DASSST	19.47	10.22	0.94								-	.48**	.44**	.27**	.44**	.42**	-.04
9.BC_T	65.63	11.74	0.88									-	.91**	.73**	.88**	.82**	.059
10.BC_P	15.48	3.78	0.82										-	.65**	.85**	.63**	.028
11.BC_R	9.92	2.11	0.50											-	.67**	.40**	.023
12.BC_POS	17.44	3.39	0.62												-	.52**	.16*
13.BC_AA	22.40	4.55	0.74													-	-.03
14.HL	1.30	0.80	-														-

Note. Significant results are reported in this Table DHI: Dizziness Handicap Inventory, V_HC: Vestibular Handicap ,V_DY: Vestibular Disability, V_V_DY: Visuo-Vestibular Disability, DASST: Depression Anxiety and Stress Scale, DASSD: Depression Scale, DASSA: Anxiety Scale, DASSST: Stress Scale, BC_T: Brief Cope Scale, BC_AA: Active Avoidance Scale, BC_P: Problem Focused Coping Scale, BC_POS: Positive Coping Scale, BC_R: Religious coping scale.

Table 2

The mediating role of coping strategies between vertigo and psychological distress (stress, anxiety, and depression) among patients with vestibulocochlear disorders (N=202).

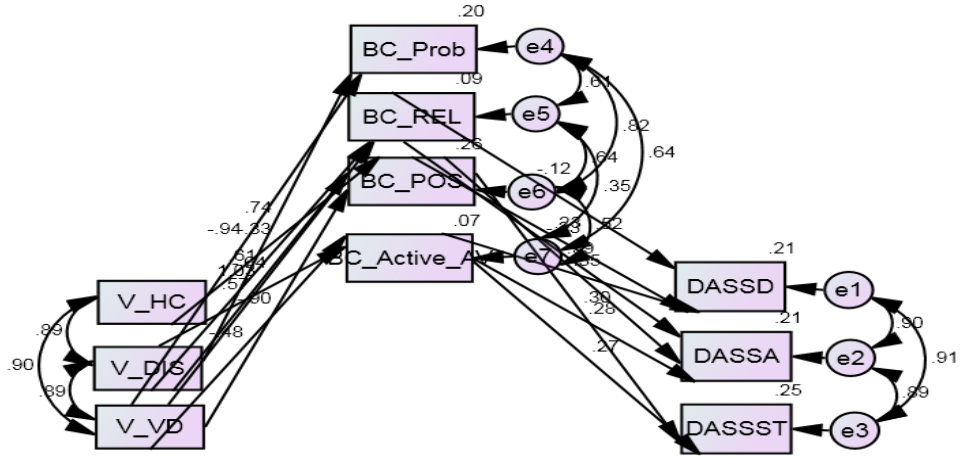
Variables	BC_REL			BC_POS			BC_Prob			BC_Active_AV			Anxiety			Depression			Stress		
	B	SE	*β*	B	SE	*β*	B	SE	*β*	B	SE	*β*	B	SE	*β*	B	SE	*β*	B	SE	*β*
V_HC				-.07	.02	-.33***															
V_DIS	.20	.05	.61***	.54	.07	.89***	.40	.08	.74***												
V_VD	-.19	.04	-.64***	-.43	.07	-.88***	-.50	.07	-.94***	-.31	.10	-.48***									
BC_REL													-.99	.18	-.33***	-.59	.19	-.12***			
BC_POS													1.13	.23	.39***	.74	.25	.23**	.90	.22	.30***
BC_AA													.61	.16	.28***	.84	.18	.35***	.61	.16	.27***

Note. DHI: Dizziness Handicap Inventory, V_HC: Vestibular Handicap ,V_DY: Vestibular Disability, V_V_DY: Visuo-Vestibular Disability,BC_T: Brief Cope , BC_AA: Active Avoidance , BC_P: Problem Focused Coping , BC_POS: Positive Coping, BC_R: Religious coping

***p < .000. **p < .01. *p < .05

Figure 1

The Mediating role of coping strategies in the relationship between vertigo severity and psychological distress (stress, anxiety, and depression) among patients with vestibulocochlear disorders.



These findings offer partial support for Hypothesis 5 and align with prior research suggesting that adaptive coping serves a protective function against psychological distress, even if its influence on somatic symptoms is limited (Schoenmakers et al., 2015; Brunault et al., 2016; Bryan et al., 2016).

Importantly, the mediation analysis confirmed that coping strategies significantly mediate the relationship between vertigo and psychological distress, thereby supporting the study's second objective. Notably, religious coping emerged as a partial mediator, highlighting its dualistic function offering existential comfort on one hand while potentially sustaining emotional distress on the other. This complex role may depend on individual belief systems, symptom severity, and the availability of complementary psychological resources (Ketola et al., 2015; Porter & Boothroyd, 2015).

Limitations and Future Directions

While this study offers valuable insights, several limitations must be acknowledged. First, the cross-sectional design limits the ability to draw causal inferences regarding the relationships among vertigo severity, coping strategies, and psychological distress. Future longitudinal studies are warranted to elucidate the temporal and directional nature of these associations. Second, reliance on self-report measures introduces the possibility of response biases, such as social desirability or recall inaccuracies, which may have influenced the reporting of psychological symptoms and coping styles. Incorporating clinician-administered assessments or multi-method data collection could enhance future study validity. Third, the sample was derived exclusively from hospitals in Rawalpindi and Islamabad**,** limiting the generalizability of findings to broader populations. Cultural and religious variables, particularly the high prevalence of religious coping in the Pakistani context, may not translate uniformly across other sociocultural environments. Replication studies in diverse international settings are recommended. Moreover, the current model did not include potentially influential factors such as perceived social support**,** personality traits, or health literacy**,** all of which may moderate or mediate psychological outcomes in individuals with vestibulocochlear dysfunction. Future research should aim to develop more comprehensive models incorporating these psychosocial variables.

Finally, the clinical implications of these findings advocate for the integration of coping-focused psychological interventions into treatment protocols for vertigo and tinnitus. Intervention studies evaluating the efficacy of cognitive-behavioral therapy, psychoeducation, and adaptive coping training are essential to assess the potential for reducing emotional burden and enhancing patients' quality of life.

Novel Contributions

This study contributes to the existing literature by identifying the mediating role of coping strategies in the relationship between vertigo and psychological distress. Unlike prior investigations that considered vestibular dysfunction and mental health outcomes in isolation, the present research proposes a mechanistic pathway whereby coping functions as a key psychological regulator. The Identification of religious coping as a culturally salient mediator adds a novel dimension to the understanding of emotional regulation, particularly within collectivist and religiously oriented societies (Aqeel et al., 2024**).**

These findings underscore the need for biopsychosocial interventions that address not only the physiological manifestations of vestibulocochlear disorders but also the cognitive and emotional coping capacities of affected individuals. Interventions tailored to strengthen adaptive coping while reducing reliance on maladaptive strategies could foster psychological resilience and enhance overall treatment outcomes.

Conclusion

In recent years, the global incidence and clinical recognition of vestibulocochlear disorders notably tinnitus and vertigo have increased significantly. Patients affected by these conditions often present with elevated psychological distress, comparable in severity to that observed in individuals with chronic physical illnesses. The present study underscores the critical role of clinical psychologists in assessing and managing the psychological components of vestibular disorders.

These findings highlight the necessity for future research aimed at identifying additional biopsychosocial risk factors that may exacerbate symptom severity or impede recovery. Integrating neuro-otological evaluations with comprehensive psychological assessments offers a promising avenue for improving diagnostic accuracy and developing personalized treatment strategies.

Moreover, this study supports the advancement of multidisciplinary care models**,** including cognitive-behavioral therapy and multisensory rehabilitation approaches, to address both the physical and psychological dimensions of vestibulocochlear disorders. Continued exploration of such integrative interventions is essential for optimizing patient care and improving long-term outcomes in this growing clinical population.

Ethical Consideration

The study was approved by Department of Applied Psychology, National University of Modern Languages (NUML), Islamabad, Pakistan. Consent Form was taken before taking data and participants were asked to take voluntary participation.

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Availability of data and materials

The data sets used and analyzed during the current study are available from the corresponding author on reasonable request.

Authors' contributions/Author details

Dr. Ammar Ahmed performed this study.

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