

# BALANCE CONFIDENCE AND VESTIBULAR DYSFUNCTION IN THE ELDERLY

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Please find following a summary of a literature search and relevant results. All articles can be provided in full - email [library@monashhealth.org](mailto:library@monashhealth.org) for a list of the articles you require.

## QUESTION

Is there a relationship between balance confidence in the elderly and vestibular dysfunction?

## RESULTS

### ONLINE RESOURCES (GREY LITERATURE)

Priesol, A., et. Al. (2024). **Assessment of balance disorders**. BMJ Best Practice. [Web link](#)  
"Dizziness and balance difficulty might also result from psychiatric disease, especially panic or anxiety disorders. However, patients with vestibular disorders also have a higher prevalence of panic and anxiety disorders."

### PEER-REVIEWED LITERATURE – MOST RECENT FIRST

Articles are grouped by theme:

- Elderly
- Mental Health
- Peripheral Vestibular Hypofunction
- Rehabilitation

*Each article summary contains excerpts from the abstract and an online link.*

## ELDERLY

Varriano. B, et al. (2021). **Prevalence of Cognitive and Vestibular Impairment in Seniors Experiencing Falls**. *The Canadian journal of neurological sciences*, 48(2), 245-52. [Full text](#).  
Vestibular impairment and cognitive impairment are prevalent in seniors experiencing falls. For seniors with history of falls, both cognitive and vestibular functions should be considered in the assessment and subsequent treatment. Screening enables earlier detection, targeted interventions, and prevention, reducing the clinical and financial impact.

Soto-Valera. A, et al. (2016). **Balance Disorders in the Elderly: Does Instability Increase Over Time?** *The Annals of otology, rhinology, and laryngology*, 125(7), 550-8. [Request article](#).  
The older patients obtain poorer scores in the equilibrium tests but not in all of them. In the sensory organization test, the older patients make poorer use of visual and vestibular information; they also require more time and steps for the timed up-and-go. With regards to the questionnaires, fear of falling is greater (higher Short FES-I scores) but not subjective perception of disability (DHI scores without differences).

Marchetti. G, et al. (2011). **Factors associated with balance confidence in older adults with health conditions affecting the balance and vestibular system.** *Archives of physical medicine and rehabilitation*, 92(11), 1884-91. [Full text.](#)

Balance confidence is a complex construct in older adults with signs and symptoms of balance or vestibular dysfunction, or both. Decreased balance confidence in performing functional activities is associated with actual balance performance, duration of vestibular symptoms, general health-related quality of life, and the presence of comorbid psychological and visual impairments.

## MENTAL HEALTH

Lindell. E, et al. (2022). **Dizziness Symptoms, Balance Confidence, and Vestibular Function in Older Women Reporting Dizziness and Unsteadiness.** *Otology & neurotology*, 43(4), 482-488. [Full text.](#)

Women reporting higher levels of distress due to dizziness had reduced walking speed and reported less balance confidence and higher levels of anxiety and depression.

Staab. J., (2019). 'Psychiatric considerations in the management of dizzy patients', **Vestibular Disorders.** *Karger.* [Request book chapter.](#)

Panic attacks may cause or contribute to acute or episodic vestibular symptoms. Generalized anxiety and depression do the same for chronic vestibular symptoms. Fear of falling causes considerable functional impairment, particularly in the elderly.

Grunfeld. E, et al. (2003). **Screening for depression among neuro-otology patients with and without identifiable vestibular lesions.** *International Journal of Audiology*, 42(3). 161-5. [Request article.](#)

The results demonstrate the value of identifying psychosocial factors, as well as disease characteristics, among patients presenting at neuro-otology clinics. In particular, the findings highlight the importance of screening for emotional distress in this patient group, regardless of clinical test results or severity of self-reported symptoms.

## PERIPHERAL VESTIBULAR HYPOFUNCTION

Herssens. N, et al. (2021). **The Relationship Between the Activities-Specific Balance Confidence Scale and Balance Performance, Self-perceived Handicap, and Fall Status in Patients With Peripheral Dizziness or Imbalance.** *Otology & neurotology*, 42(7)1058-1066. [Full text.](#)

In general, patients with peripheral vestibular impairments reporting a lower self-confidence or a more severe self-perceived disability show worse balance performances and a higher fall incidence.

Apaydin. Y, et al. (2020). **Relation of vertigo, dizziness, and imbalance with physical activity, exercise capacity, activities of daily living, and quality of life in peripheral vestibular hypofunction.** *Turkish Journal of Physiotherapy and Rehabilitation*, 31(3), 278-287. [Full text.](#)

These results showed that vertigo, dizziness, and imbalance decrease physical activity level, activities of daily living, and quality of life in PVH. Therefore, vestibular rehabilitation should not only include vestibular adaptation and balance training, but it should also focus on improving physical activity level in patients with PVH as well. This approach may be more effective in improving independence in activities of daily living and quality of life.

Legters. K, et al. (2005). **The relationship between the Activities-specific Balance Confidence Scale and the Dynamic Gait Index in peripheral vestibular dysfunction.** *Physiotherapy research international*, 10(1), 10-22. [Full text.](#)

Decreased balance confidence and increased fall risk are critical issues for people with vestibular

dysfunction. The effects of aging did not have a significant impact on the relationship. The correlation between balance confidence and gait dysfunction was stronger in those with mild or moderate vestibular weakness, although those with severe or total weakness were more disabled by their vestibular symptoms.

## REHABILITATION

Honaker, J, et al. (2014). **Impact of fear of falling for patients and caregivers: perceptions before and after participation in vestibular and balance rehabilitation therapy.** *American journal of audiology*, 23(1), 23-33. [Full text.](#)

Patient age showed statistically significant differences in levels of balance confidence. The study highlights the impact of Fear of Falling on participation and activity levels of patients and family caregivers, as well as the need to thoroughly evaluate falling fears to achieve a holistic rehabilitation outcome.

Rossi-Izquierdo, M, et al. (2017). **Short-term effectiveness of vestibular rehabilitation in elderly patients with postural instability: a randomized clinical trial.** *Otology*, 274(6), 2395-2403. [Full text.](#)

An increased age did not affect the potential for improvement after training. So we conclude that elderly patients with high risk of falling should begin vestibular rehabilitation as soon as possible in order to avoid the potential harm of falls, mainly injuries and psychological consequences due to fear of falling again.

Jung, J, et al. (2009). **Effect of vestibular rehabilitation on Dizziness in the elderly.** *American Journal of Otolaryngology*, 30(5), 295-9. [Full text.](#)

In the majority of elderly patients with dizziness, the etiology of dizziness is not found and is attributed to presbyastasis. General vestibular rehabilitation therapy seems to be an effective treatment for this elderly group.

Gabilan, Y, et al. (2008). **Aquatic physiotherapy for vestibular rehabilitation in patients with unilateral vestibular hypofunction: Exploratory prospective study.** *Journal of Vestibular Research*, 18(2-3), 139-146. [Request article.](#)

Unilateral vestibular hypofunction patients undergoing aquatic physiotherapy for vestibular rehabilitation achieved an improvement in quality of life, body balance and self-perception of dizziness intensity, regardless of age, time since symptom onset, and use of antivertigo medication.

## APPENDIX

### SEARCH METHODOLOGY

A systematic search was conducted for literature. The results were screened by librarians using [Covidence](#).

### DATABASES SEARCHED

- Medline – index of peer reviewed articles across health sciences and medicine.
- Embase – index of biomed and pharmacological peer reviewed journal articles.
- Emcare – index of nursing, allied health, critical-care medicine and more.

- UpToDate & BMJ Best Practice – synthesised evidence for patient care.
- Grey literature – Google, Google Scholar, Trip database, Biomed Central Proceedings.

## SEARCH TERMS

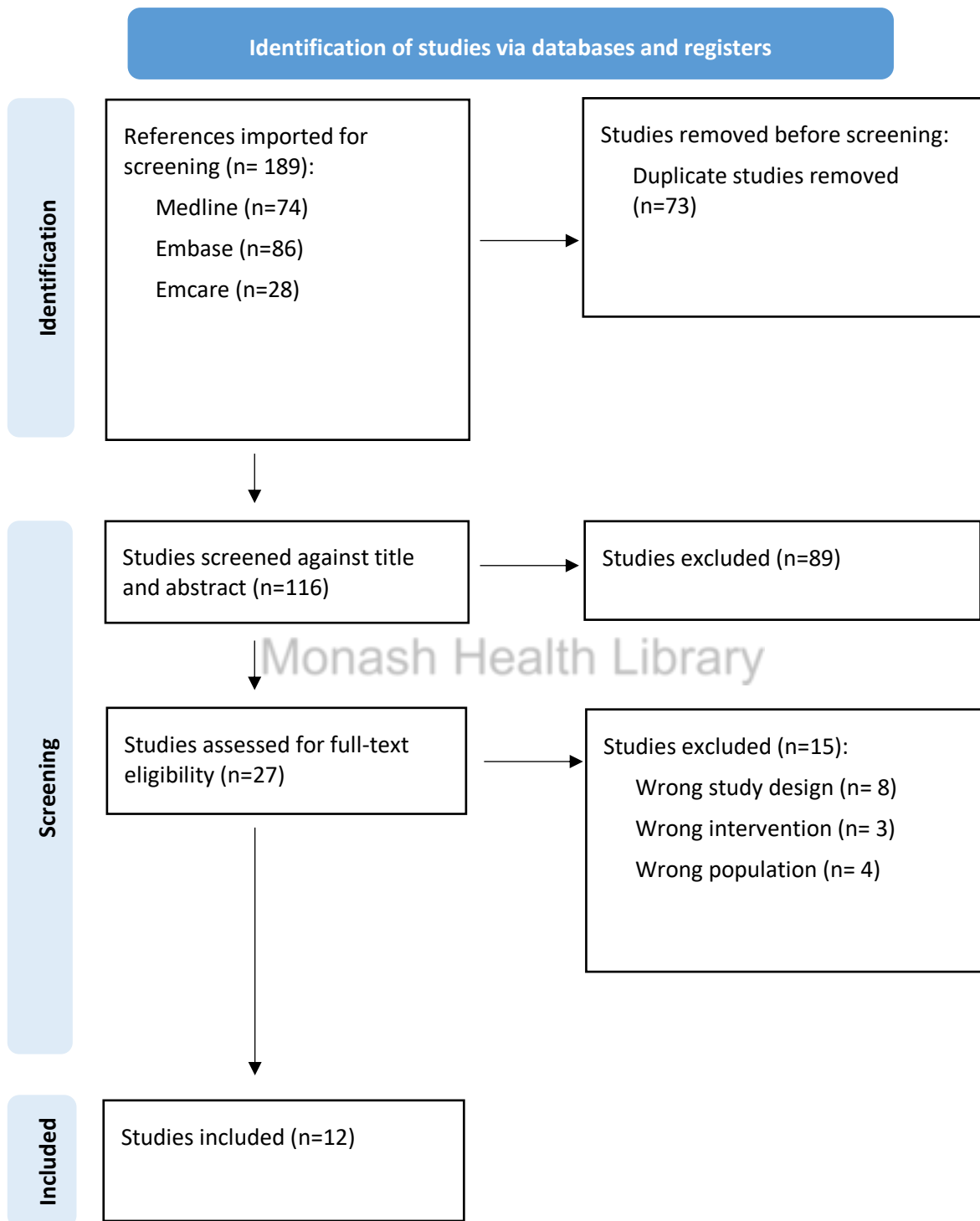
Concept	MeSH headings	Keywords
Balance Confidence	Self concept	Balance confidence, fear of falling activity-specific balance confidence scale, ABC
Vestibular Disease	Vestibular Diseases	Vestibular impairment, dysfunction, diseases, disorders
Elderly	Exp Aged	Aged, elder, elderly, geratirc, old, pensioner, older adult, senior patient

## MEDLINE SEARCH STRATEGY

Ovid MEDLINE(R) ALL <1946 to August 14, 2024>

- 1 (balance confidence or Activity-specific Balance Confidence Scale or ABC or fear of falling).tw. 34950
- 2 Self Concept/ 61872
- 3 1 or 2 96764
- 4 (vestibular adj (impair\* or dysfunction or disease\* or disorder\*)).tw. 5010
- 5 Vestibular diseases/ 5060
- 6 4 or 5 8336
- 7 (aged or elder\* or geriatric\* or old\* or pensioner\* or elder\*).tw.2671629
- 8 ((older or senior) adj (adult\* or patient\* or people\* or person\* or m?n or wom?n)).tw. 247609
- 9 exp Aged/ 3551108
- 10 7 or 8 or 9 5433021
- 11 3 and 6 and 10 74

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