



Prevalence and observation study of sleep disorder in geriatric population

Samiksha Amol Sugandhi¹, Dr. Y S Kadam², Dr. R S Gangatharan¹

¹ Community-Physiotherapy, Rashtrasant Janardhan Swami College of Physiotherapy, Maharashtra, India

² Principal, Rashtrasant Janardhan Swami College of Physiotherapy, Maharashtra, India

Abstract

Background: Sleep problems are common in older adult's due to aging and other health issues. Obstructive sleep apnea (OSA) is a very common disorder and can lead to heart and brain problems.

Aim: To find out how common sleep disorders are in older people and see how age, gender, and body weight are connected.

Method: A study was done with 170 elderly people using the Berlin Questionnaire.

Results: About 48.8% of participants were at high risk for sleep apnea. Higher body weight was linked to a higher risk ($p < 0.001$).

Conclusion: Sleep disorders are very common in older adults. Regular screening is important.

Keywords: Sleep disorders, geriatric population, obstructive sleep apnea, berlin questionnaire, BMI

Introduction

Sleep is essential for the body and mind.

It helps with memory, the immune system, metabolism, and heart health. As people get older, their sleep patterns change. They may sleep less, have more waking up during the night, and their body clock can be affected. These changes make older adults more likely to have sleep problems and chronic sleep issues.

Sleep problems are very common in older people and often happen along with other long-term health conditions like high blood pressure, diabetes, obesity, arthritis, heart disease, and brain disorders.

Insomnia and breathing problems during sleep are the most common types. Obstructive sleep apnea (OSA), which is when the airway becomes blocked during sleep leading to stoppages in breathing and disrupted sleep, is a major health concern for older adults. OSA becomes more common as people get older because of things like weaker muscles in the airway, more fat around the neck, and changes in the airway structure.

If sleep problems are not recognized or treated, they can lead to serious health issues.

These include waking up tired during the day, trouble focusing, less physical ability, more falls, depression, memory problems, and a lower quality of life. OSA is also linked to heart problems like hypertension, heart failure, stroke, and metabolic issues. These health issues can increase the need for medical care, disability, and even death in older adults.

Body mass index (BMI) is a key risk factor for sleep-disordered breathing.

Extra fat around the body can narrow the airway and make breathing harder during sleep. This can lead to more and worse apnea events. Although obesity is often seen in younger people, it is becoming more common in older adults, further increasing the risk of OSA.

Despite the high number of sleep problems in older adults, sleep health is not always checked or diagnosed, especially in rural and places with limited resources.

Older people often think that sleep problems are just a normal part of getting older and may not seek help.

Healthcare providers may also miss sleep issues when they focus on other long-term diseases. Using simple tools like the Berlin Questionnaire can help identify sleep problems early and reduce long-term health issues.

Understanding how common sleep disorder risk is and how it is connected to age, gender, and BMI is important for developing better prevention strategies and improving care for older adults.

This study aims to assess sleep disorder risk in an elderly population in rural India and see how it relates to age, gender, and BMI.

Materials and Methods

Study Design: A cross-sectional study to find out how common sleep disorders are.

Study Setting: conducted in rural areas of Maharashtra, India.

Sample Size: Total 170 participants were chosen using RaoSoft sample size calculator.

Sampling Method: Used convenience sampling.

Participants

Elderly people living in the community who are 60 years or older.

Inclusion Criteria

- Age 60 years or older
- Willing to take part
- In good health

Exclusion Criteria

- Severe memory problems
- Active mental health issues
- People staying in the hospital

Outcome Measure

Used the Berlin Questionnaire to check for sleep apnea risk.

Procedure

- Got ethical approval first.
- Participants were checked, and their personal information and BMI were recorded.

- The Berlin Questionnaire was given through an interview.
- People were divided into high and low risk groups.

Statistical Analysis

Used descriptive statistics.

A one-sample t-test was used. Significance was set at $p < 0.05$.

Results

Out of the 170 participants, 83 (48.8%) were at high risk and 87 (51.2%) were at low risk for sleep apnea.

Higher BMI was strongly linked to a higher risk ($p < 0.001$). These findings match what has been found in previous studies^[3, 6].

Discussion

This study shows that sleep disorder risk is very common in older adults, which is similar to findings from around the world^[2, 4]. The change in the body as people get older and the presence of obesity increase the risk of OSA^[6, 10]. Earlier research has shown a link between sleep apnea and heart problems^[3, 11]. Using tools like the Berlin Questionnaire for early screening can help reduce complications^[9, 12]. Physical therapy that focuses on controlling weight and making lifestyle changes might help improve outcomes^[13, 14].

Conclusion

Sleep disorder risk is very common in the elderly. BMI is a key risk factor that can be changed. Regular screening for older adults is recommended to improve their quality of life.

References

1. Mazza M, Della Marca G, De Risio S, *et al.* Sleep disorders in the elderly. *Clin Ter*,2004;155(9):391-394. PMID: 15700632.
2. Tobias LA, Pisani MA. Sleep and sleep disorders in older adults. *Clin Geriatr Med*,2025;41(4):569-586. PMID: 41198261.
3. Janssens JP, Pautex S, Hilleret H, Michel JP. Sleep disordered breathing in the elderly. *Aging (Milano)*,2000;12(6):417-429. PMID: 11211951.
4. Ghavami T, Kazemina M, Ahmadi N, Rajati F. Global prevalence of obstructive sleep apnea in the elderly: A systematic review. *J Perianesth Nurs*,2023;38(6):865-875.
5. Norman D, Loreda JS. Obstructive sleep apnea in older adults. *Clin Geriatr Med*,2008;24(1):151-165. PMID: 18035238.
6. Hader C, Schroeder A, Hinz M, *et al.* Sleep disordered breathing in the elderly. *J Physiol Pharmacol*,2005;56(4):85-91. PMID: 16204780.
7. Hader C, Hinz M, Rasche K. Sleep-disordered breathing and mortality in elderly. PMID: 17072038.
8. Attier-Zmudka J, Serizay A, *et al.* Sleep apnea and cognition in elderly. PMID: 31998116.
9. Russell T, Duntley S. Sleep disordered breathing in elderly. *Am J Med*,2011;124(12):1123-1126.
10. Ernst G, Mariani J, Blanco M, *et al.* Increase in frequency of OSA in elderly people. *Sleep Sci*,2019;12(3):222-226.

11. Young T, Peppard PE, Gottlieb DJ. Epidemiology of obstructive sleep apnea. *Am J Respir Crit Care Med*,2002;165:1217-1239.
12. Netzer NC, Stoohs RA, *et al.* Using the Berlin Questionnaire to identify OSA risk. *Ann Intern Med*,1999;131:485-491.
13. Kline CE. The bidirectional relationship between exercise and sleep. *Adv Prev Med*,2014;2014:706438.
14. Peppard PE, Young T, Barnett JH, *et al.* Increased prevalence of sleep-disordered breathing in adults. *Am J Epidem*