King's College Hospital NHS Foundation Trust

# More Than a Near Miss:

## The importance of multi-question screening for driving impairment in OSA

Maryana Jahangir[1], Summia Hussain[1], Mei Tung Lam[1], Ryan Syed[1], Kai Lee [1, 2]
[1] GKT School of Medical Education, King's College London, London, [2] King's College Hospital NHS Foundation Trust, London

## Introduction

**Obstructive Sleep Apnoea (OSA)** is a recognised contributor to driving impairment, yet its real-world impact remains underappreciated in clinical practice.

Traditional severity measures like the Apnoea-Hypopnoea Index (AHI) and subjective sleepiness scores often fail to capture functional risk.

Aim: This study sought to determine the prevalence of sleep-related driving impairment in OSA using multiple targeted questions and exploring associations with demographic and clinical factors, aiming to build a comprehensive understanding of how OSA affects driving.

## Method

A retrospective analysis from patients with OSA who attended sleep clinic between May and September 2023.

Inclusion criteria consisted of a confirmed OSA diagnosis, a completed sleep clinic questionnaire and being a driver.

Patients completed four questions on driving impairment (**near-misses, accidents, head-nodding,** and **needing breaks** while driving due to fatigue) as part of a standard clinical symptom questionnaire. A positive response to any of the four question items was deemed indicative of driving being affected.

The relationships between reported driving impairment and clinical variables were evaluated.

| Driving Questions | Percentage answered yes (%) |
|---|---|
| Breaks within 1 hr? | 16% |
| Head-nodding last year? | 19% |
| Accident last 3 years? | 2% |
| Near-miss last year? | 7% |

**Figure 1. Percentage of patients answering 'yes' to driving questions**

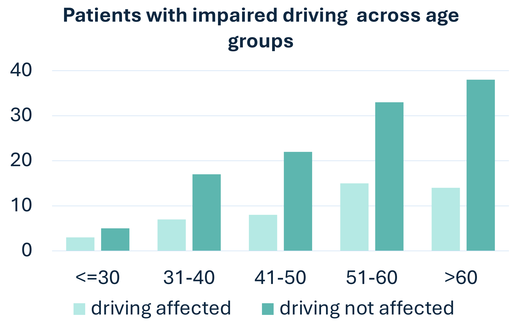


**Figure 2. Number of patients reported impaired driving across age groups**

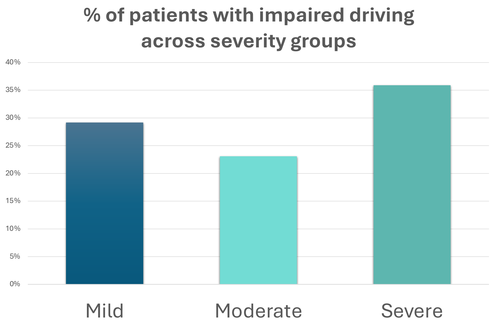


**Figure 3. Percentage of patients reported impaired driving across severity groups**

## Results

**Nearly one-third of patients with OSA report driving impairment — strongly linked to sleepiness, not disease severity.**

A total of 162 patients met inclusion criteria (Fig 1). Driving impairment was self-reported by 47 patients (29%), with 38% of this group describing more than one impairment feature.

Importantly, impairment increased with age (Fig 2). While no association was found between impairment and OSA severity (Fig 3), higher ESS scores were strongly predictive.

## Conclusion

Driving impairment was reported by nearly one-third (29%) of patients with OSA but showed no relationship with disease severity.

In contrast, higher ESS scores were predictive of impairment, highlighting the importance of incorporating subjective symptom assessment into routine care. Screening for driving difficulties should be undertaken in all patients, and more comprehensive, multi-question tools are needed to better identify those at risk and reduce the safety burden of OSA on the road.

REFERENCES:
1. Bonsignore M. Sleep apnea and its role in transportation safety. F1000Res. 2017 Dec 22;6:2168. doi: 10.12688/f1000research.12599.1. PMID: 29333261; PMCID: PMC5749121
2. McNicholas WT, Rodenstein D. Sleep apnoea and driving risk: the need for regulation. Eur Respir Rev. 2015 Dec;24(138):602-6. doi: 10.1183/16000617.0049-2015. PMID: 26621974; PMCID: PMC9487626