



KNOWLEDGE GAP ANALYSIS ABOUT OSA AMONG DOCTORS WORKING IN A TERTIARY HEALTH CARE CENTER

Pulmonary Medicine

Dr. Reethu. H. E* Post Graduate, Dept. Respiratory Medicine, NMCH&RC *Corresponding Author

Dr. Manjunath. M Professor & HOD, Dept. Respiratory Medicine, NMCH&RC

ABSTRACT

Sleep apnea, particularly obstructive sleep apnea (OSA) is a common yet often under diagnosed condition with significant cardiovascular, metabolic, and neurological implications. While awareness of sleep apnea has increased in recent years, its recognition, diagnosis, and management remain inconsistent among healthcare providers. This study aims to assess the level of knowledge regarding sleep apnea among doctors across different specialties in a medical college hospital to evaluate their understanding of the risk factors, diagnostic methods, current diagnostic protocols and therapeutic advancements for OSA using OSAKA questionnaire. The study underscores the knowledge gap about OSA among doctors in different clinical department in a medical college and the importance for targeted education and training to enhance diagnostic accuracy and improve patient outcomes continuing medical education on sleep disorders to bridge these knowledge gaps and promote earlier detection and management of sleep apnea in clinical practice

KEYWORDS

OSA, OSAKA, Tertiary health care center, knowledge, Doctors.

INTRODUCTION

Obstructive Sleep Apnea (OSA) is a prevalent and serious sleep disorder characterized by repeated interruptions in breathing during sleep due to the blocked upper airway.

This condition severely impacts sleep quality and can lead to excessive daytime drowsiness. Untreated OSA contributes to major health issues, including high blood pressure, obesity, cardiovascular diseases, and metabolic disorders. Additionally, OSA increases the risk of accidents and results in significant healthcare costs.

This serious condition often goes undiagnosed and poorly managed due to insufficient knowledge among healthcare professionals. Doctors, being the first point of contact for patients, are crucial for early diagnosis and effective management of OSA.

OSA is frequently misdiagnosed or under diagnosed by clinicians from various specialties due to the overlap of symptoms with other conditions like Periodic Limb Movement Disorder (PLMD), narcolepsy, insomnia, GERD, heart failure, cerebrovascular disease, or sinusitis, Obesity Hypoventilation Syndrome (OHS) leading to potential diagnostic errors.

It's crucial for doctors in all specialties—whether they're in primary care, cardiology, neurology, OBG, psychiatry, or any other field—to be aware of the OSA symptoms and importance of reference to pulmonologist at the right time for further management

OBJECTIVE

This study employs the OSAKA questionnaire, knowledge section of 18 questions to assess the current level of knowledge about OSA among doctors working in a medical college.

This research aims to identify educational gaps and inform potential improvements in medical training.

MATERIALS AND METHODS

This study was a cross-sectional study with postgraduate students (1st year, 2nd year, 3rd year) and working doctors (senior resident, assistant professor, associate professor & HOD) from different clinical departments of Navodaya Hospital, Raichur from Jan 2023 to Jan 2024 as study population.

Printed OSAKA questionnaire (only the knowledge section of 18 questions) were handed over to the study sample along with a section for the personal information including age, gender, qualification (including specialization and super specialization), and years of working as doctor after the graduation.

Exclusion Criteria

- Doctors who were not available or not willing to participate in the study.
- Doctors and postgraduate students working in ENT, Respiratory Medicine department

RESULT

Total of 232 doctors participated in the study including 44 working doctors and 188 postgraduate students working in different clinical (specialty) department excluding ENT and Respiratory Medicine.

Table 1: Gender Distribution of Participants:

Gender	Total 223(100%)
Male	108(46.55%)
Female	124(53.44%)

Out of 232 doctors, 124(53.44%) were female doctors and 108(46.55%) were male

Table 2: Age Distribution of Participants:

AGE	Total 232 doctors (100%)
20 to 30 yrs	178(76.724%)
30 to 40 yrs	26(11.20%)
40 to 50 yr	21(9.051%)
>50 yrs	7(3.017%)

Table 3: Working Category Distribution of Participants:

Working category	Total n=232 doctors who participated in the study
Postgraduate students under training	188(81.03%)
Working doctors after post-graduation	44(18.28%)

Out of 232 participants 188(81.03%) were postgraduate students and 44(18.28%) were working doctors from different clinical departments of Navodaya Medical college participated in the study.

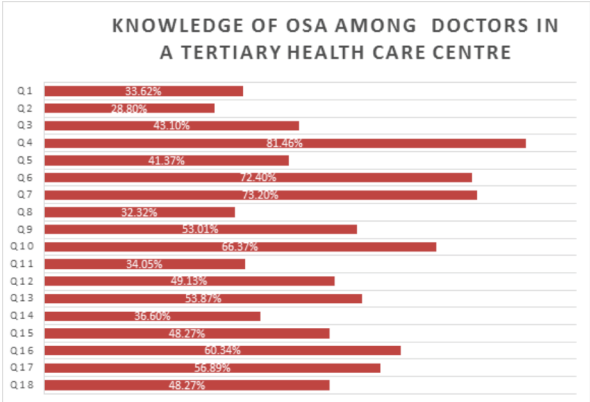
Table 4: Category According to Working Years' Experience after Graduating:

Years of working as doctor after graduation	Number of doctors out of 232
1-5 years	132(56.89%)
5-10 yrs	54(23.27%)
10 -15 yrs	17(7.32%)
15-20 yrs	15(6.46%)
Above 20 yrs	14(6.03%)

Table 5: Knowledge of OSA Among Doctors:

Question	Post graduate students (n=188)	Working doctors (n=44)	Total (n=232)
1. Women with obstructive sleep apnea may present with fatigue alone.	62 (32.97%)	16 (36.36%)	78 (33.62%)
2.Uvulopalatopharyngoplasty is curative for the majority of patients with obstructive sleep apnea.	53 (28.19%)	14 (31.81%)	67 (28.8%)

3. The estimated prevalence of obstructive sleep apnea is between 2% and 10%.	75 (3.89%)	25 (56.81%)	100 (43.10%)
4. The majority of patients with obstructive sleep apnea snore.	150 (79.78%)	39 (88.63%)	189 (81.46%)
5. Obstructive sleep apnea is associated with hypertension.	77 (40.95%)	19 (43.18%)	96 (41.37%)
6. An overnight sleep study is the gold standard for diagnosing obstructive sleep apnea.	133 (70.744%)	35 (79.54%)	168 (72.41%)
7. CPAP (Continuous Positive Airway Pressure) therapy may cause nasal congestion.	135 (71.80%)	35 (79.54%)	170 (73.2%)
8. Laser-assisted uvuloplasty is an appropriate treatment for severe obstructive sleep apnea.	58 (30.85%)	17 (38.63%)	75 (32.32%)
9. The loss of upper airway muscle tone during sleep contributes to obstructive sleep apnea.	95 (50.53%)	28 (63.63%)	123 (53.01%)
10. The most common cause of obstructive sleep apnea in children is the presence of large tonsils and adenoids.	119 (63.29%)	35 (79.54%)	154 (66.37%)
11. A craniofacial and oropharyngeal examination is useful in the assessment of patients with suspected obstructive sleep apnea.	61 (32.44%)	18 (40.90%)	79 (34.05%)
12. Alcohol at bedtime improves obstructive sleep apnea.	90 (47.87%)	24 (54.54%)	114 (49.13%)
13. Untreated obstructive sleep apnea is associated with a higher incidence of automobile crashes.	93 (49.46%)	32 (72.72%)	125 (53.87)
14. In men, a collar size of 17 inches or greater is associated with obstructive sleep apnea.	66 (35.1%)	19 (43.18%)	85 (36.6%)
15. Obstructive sleep apnea is more common in women than in men.	86 (45.744%)	26 (59.09%)	112 (48.27%)
16. CPAP is the first-line therapy for severe obstructive sleep apnea.	105 (55.85%)	35 (75%)	140 (60.34%)
17. Less than 5 apneas or hypopneas per hour are normal in adults.	107 (56.91%)	25 (56.8%)	132 (56.89%)
18. Cardiac arrhythmias may be associated with untreated obstructive sleep apnea.	84 (44.68%)	28 (63.63%)	112 (48.27%)



Graph 1: Knowledge of OSA Among Doctors in a Tertiary Health Care Center.

Table 6: Distribution of Average of all Correctly Answered Questions by Participants into Categories on Working Experience:

Years of working as doctor after graduation	Number of doctors out of 232	No. of questionnaire answered correctly (mean)
		Range Mean

1-5 years	132(56.89%)	4-11	10
5-10 yrs	54(23.27%)	7-14	13
10 -15 yrs	17(7.32%)	9-15	14
15-20 yrs	15(6.46%)	10-15	14
Above 20 yrs	14(6.03%)	9-15	14

DISCUSSION

This study aimed to assess the knowledge of Obstructive Sleep Apnea (OSA) among 232 doctors, including 188 postgraduate students and 44 working doctors, across various clinical specialties, excluding ENT and Respiratory Medicine. The participants had a varied age distribution, with the majority (76.72%) being under 30 years old. The study also explored various factors such as gender, age, work experience, and years of practice after graduation to identify correlations with the knowledge of OSA.

Gender Distribution

The gender distribution was fairly balanced, with slightly more female participants (53.44%) than male (46.55%). Gender did not significantly impact OSA knowledge based on the responses.

Age Distribution

Regarding age, 76.72% of participants were between 20-30 years old, reflecting the high proportion of postgraduate students. Younger doctors may have recent academic exposure, but clinical experience is crucial for understanding conditions like OSA.

Years of Work Experience Distribution

Doctors with more than 10 years of experience demonstrated better knowledge, with those in the 1-5 years category scoring lower on average. Specifically, doctors with 1-5 years of experience had a mean score of 10, while those with 5-10 years scored an average of 13.

Doctors with 10-15 years, 15-20 years, and more than 20 years of experience all scored similarly, with a mean of 14. This suggests that while initial post-graduate training provides a solid foundation, ongoing exposure and practical experience likely contribute to better retention and understanding of complex conditions like OSA. Knowledge of OSA was correlated with years of working experience after post-graduation in the study.

Knowledge of Obstructive Sleep Apnea

In terms of specific knowledge about OSA

- Prevalence of OSA:** Only 43.10% of participants correctly estimated the prevalence of OSA to be between 2% and 10%, indicating a significant gap in understanding the condition's epidemiology. This may suggest that there is a lack of awareness regarding the global and local burden of OSA among both postgraduate students and working doctors.
- Snoring and OSA:** The overwhelming majority (81.46%) of participants correctly identified that the majority of patients with OSA snore. This is a well-established symptom of OSA, and it is reassuring to see that most participants recognize it.
- Diagnostic Gold Standard:** An important diagnostic tool for OSA is the overnight sleep study, which was correctly identified by 72.41% of participants. However, a significant proportion of doctors (27.59%) did not identify this as the gold standard, indicating a potential area for improvement in the understanding of diagnostic methods for OSA.
- CPAP Therapy:** The majority of doctors, especially those with more years of experience, correctly identified CPAP (Continuous Positive Airway Pressure) as a first-line therapy for severe OSA (60.34% overall). However, the responses regarding CPAP-related side effects, such as nasal congestion, were more varied, with a higher percentage of working doctors recognizing this issue compared to postgraduate students.
- Co-morbidities:** Knowledge of the association between OSA and co-morbid conditions like hypertension (41.37%) and cardiac arrhythmias (48.27%) was less widespread. This suggests that while doctors may be aware of OSA as a condition, the full spectrum of its associated risks is less recognized.
- Management and Treatment:** The study also showed some variability in knowledge about treatment options like only 32.32% of participants considered laser-assisted uvuloplasty as an appropriate treatment for severe OSA, highlighting a possible lack of awareness regarding alternative treatment modalities.

Limitations

The study relied on self-reported responses, which could introduce

biases related to participants' confidence or misunderstanding of certain aspects of OSA.

CONCLUSION

In conclusion, while the study revealed a basic understanding of Obstructive Sleep Apnea (OSA) among doctors, there are clear gaps in knowledge, particularly regarding its prevalence, associated risks, and treatment strategies. Doctors with more years of clinical experience had a better understanding of OSA, suggesting that exposure to OSA cases during clinical practice enhances knowledge over time. However, new graduates showed a notable knowledge gap, likely due to limited exposure to OSA cases across various clinical departments and as OSA are primarily managed by respiratory physicians.

Given the high percentage of postgraduate students with gaps in OSA knowledge, it would be beneficial to incorporate education on sleep disorders, especially OSA, into medical curricula. Practical, interdisciplinary training could bridge these knowledge gaps and better prepare future healthcare professionals to recognize and manage OSA effectively.

Ongoing education for current healthcare professionals is also essential to maintain up-to-date knowledge. Furthermore, enhancing collaboration between medical and dental professionals will improve OSA diagnosis, management, and ensure appropriate referrals, ultimately leading to better patient outcomes.

REFERENCES

1. American Academy of Sleep Medicine. (2021). The International Classification of Sleep Disorders (ICSD-3). Darien, IL: American Academy of Sleep Medicine.
2. Joo, M., & Shin, H. (2017). Knowledge and attitude towards obstructive sleep apnea among primary care physicians. *Sleep Medicine Reviews*, 31, 55-63.
3. Sullivan, C. E., & Issa, F. G. (2018). Impact of sleep apnea on cardiovascular health. *Chest*, 154(3), 620-628.
4. Devaraj NK. Knowledge, attitude, and practice regarding obstructive sleep apnea among primary care physicians. *Sleep and Breathing*. 2020 Dec;24(4):1581-90.
5. Tamay Z, Akcay A, Kilic G, Suleyman A, Ones U, Guler N. Are physicians aware of obstructive sleep apnea in children? *Sleep Medicine*. 2006 Oct 1;7(7):580-4.
6. Beck N, Ebrahim AG, Shetty S, Afshar S, Sigamani A, Salins P. Physician knowledge and attitudes towards screening and referral for obstructive sleep apnea: a mixed methods study in a tertiary care hospital. *Journal of Global Health Reports*. 2020 Dec 8;4: e2020102.
7. Shrestha I, Shrestha D, Bista R, Bista M. Assessment of knowledge and attitudes regarding obstructive sleep apnea among interns, residents and medical doctors of Kathmandu Medical College. *Journal of Chitwan Medical College*. 2021 Dec 25;11(4):60-3.
8. Meshram SH, Meshram CS, Mishra GS, Bhar Shankar R. Behavior, attitude and knowledge of sleep medicine among resident doctors in university hospitals of Central India: A questionnaire-based study. *The Indian Journal of Sleep Medicine*. 2007;2(4):139-44.
9. Meenakshi RS, Kumar KS, Prabhakar K. Evaluation of awareness of issues regarding obstructive sleep apnea and the orthodontist role in management: A survey among dental and medical practitioners. *Journal of Indian Academy of Dental Specialist Researchers*. 2016 Jul 1;3(2):43-.