

Role of General Practitioners (GP) Versus Specialists in Recognising Obstructive Sleep Apnea (OSA)

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Abstract

Background: Obstructive Sleep Apnea (OSA) is a respiratory sleep-related disease characterized by partial or complete recurrent upper airway obstruction during sleep. Obstructive sleep apnea is highly prevalent in middle aged population and is largely unrecognized in the primary care setting. Most of the clinicians do not suspect this important comorbidity initially resulting in delayed diagnosis. **Objective:** To evaluate the percentage of patients referred from General Practitioners (GP) and Specialists for sleep studies and to characterize the clinical features in these patients. **Methods:** We performed polysomnography studies of patients that were referred from various sub-specialty clinics from July 2011 to August 2013. **Results:** A total of 152 cases were referred from different sub specialty clinic (Male =71, Female=81). 67(44.1%) patients were referred from GPs and 85 (55.9%) were referred various subspecialty clinics. **Conclusion:** Most of the clinicians do not suspect this important comorbidity in the beginning resulting in delayed diagnosis. General Practitioners and other specialists need more awareness and knowledge regarding OSA to ensure early diagnoses and treatment.

Keywords: Obstructive sleep apnea; General Practitioners (GP); Specialists

Introduction

Obstructive sleep apnea (OSA) is the most prevalent form of sleep disordered breathing and is characterized by repetitive upper airway collapse/obstruction during sleep. This recurrent upper airway obstruction during sleep causes intermittent nocturnal hypoxia and sleep fragmentation.^[1] The common symptoms of obstructive sleep apnea include disturbed sleep, daytime sleepiness, fatigue, irritability, and memory problems.^[2] OSA is a widespread public health problem and is known to be associated with significant morbidity and mortality.^[3] Obstructive sleep apnea often results in wide range of psychiatric disorders, in particular depression and anxiety.^[4] There have been few robust studies reporting that depression and depressive symptoms are correlated with obstructive sleep apnea.^[5] Despite the underlying mechanism how sleep apnea is linked to depressed mood, patients with co-morbid OSA have impaired neurocognitive functioning and impaired quality of life.^[6] Obesity is very common in these patients and the strongest risk factor for the development of obstructive sleep apnea (OSA).^[7,8] The incidence of OSA in the obese population is very high and ranges from 40% to 93%.^[9] Young T and co-workers reported the prevalence of obstructive sleep apnoea (OSA) to be 3–7.5% in men and 2–3% in women.^[10] Unfortunately, in spite of the problem being widespread, most of the cases of OSA are unrecognized and therefore untreated.^[3] As per one study, 93% of females and 82% of males with OSA remain undiagnosed.^[11] In addition to the cardiovascular morbidities, patients with OSA frequently have impaired neurocognitive function, poor health-related quality of life, and other metabolic dysfunctions.^[6,12] The primary objectives of this article are to evaluate what percentage of patients referred by primary care physicians and specialists for sleep studies had OSA; and to determine whether

primary care physicians asked key questions to suggest the diagnosis of OSA.

Methods

The cross-sectional study was carried out at the Modern hospital Srinagar conducted over a period of two year, from July 2013 to August 2014. Modern Hospital is a private Hospital located in Rajbagh that provides the full spectrum of primary care and specialty services through its own salaried professional staff. Patients from all parts of state Jammu And Kashmir are referred to hospital, as the Standard polysomnographic studies with accredited laboratory is only available here in the hospital. We performed polysomnography studies of patients that were referred from various sub-specialty clinics. All participants gave written informed consent before Polysomnography (PSG). All patients underwent overnight polysomnography for the assessment of Obstructive sleep apnea.

Demographic data, general medical history, clinical information from the initial visit, referral doctors or sleep-related complaints as well as polysomnography results for cases, were recorded. Anthropometric measurements including height, weight and neck circumference were measured in all patients and blood pressure of each participant was recorded. PSG recordings were started based on the subject's

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Discussion

usual domestic sleeping habits and each patient was recorded for a minimum of 7 hours.

Exclusion criteria

- Patients on nocturnal oxygen supplementation.
- Unstable cardiopulmonary, neurological, or psychiatric disease.
- Upper airway surgery.
- Using positive airway pressure therapy or oral appliances.

Results

A total of 152 cases were referred from different sub speciality clinic. Male=71, Female=81. 67(44.1%) patients were referred from GPS and 85 (55.9%) were referred various subspecialty clinics [Tables 1–4].

Table 1: Basic characteristics and PSG finding of the study population.

Mean \pm SD	Total (N=152)
Age (years)	54.89 \pm 12.89,
BMI	31.09 \pm 4.61
Neck circumference (cm)	40.27 \pm 3.38
AHI	21.79 \pm 12.04
ESS	14.93 \pm 3.93

Table 2: Referral in the study population (n=152).

Referral by	Sex		Total (n=152)
	Male (n=71)	Female (n=81)	
GP	27	40	67
	38.0%	49.4%	44.1%
Specialist	44	41	85
	62.0%	50.6%	55.9%

χ^2 : 2.0, df: 1, P 0.160 (non-Sig.)

Table 3: Referral pattern in the study population: men vs. Women.

Referred by	Sex		Total
	Male	Female	
GP	27	40	67
	38.0%	49.4%	44.1%
Cardiologist	9	19	28
	12.7%	23.5%	18.4%
E.N.T.	11	0	11
	15.5%	0.0%	7.2%
Endocrinologist	3	6	9
	4.2%	7.4%	5.9%
Neurologist	9	8	17
	12.7%	9.9%	11.2%
Psychiatrist	5	1	6
	7.0%	1.2%	3.9%
Others	7	7	14
	9.9%	8.6%	9.2%

χ^2 : 20.2, df: 6, P 0.003 (Sig.)

Table 4: Frequency of snoring and excessive day time sleepiness in the study population.

	Total	Male	Female	
Snoring	144	64	80	χ^2 : 5.6 P: 0.018 (Sig.)
	94.7%	90.1%	98.8%	
Excessive day time sleep	118	54	64	χ^2 : 0.2 P: 0.66 (NS)
	77.6%	76.1%	79.0%	

Sleep apnea is considerably under recognized by primary care physicians. The primary objectives of this article is to evaluate what percentage of patients referred by primary care physicians for sleep studies had OSA; to characterize the clinical features of these patients and compare them with our known OSA population; and to determine whether primary care physicians asked key questions contained in a work sheet to make the diagnosis of OSA. Primary care physicians can also be very helpful in referring patients suspected of having OSA to sleep specialists for proper diagnosis and treatment. Thus, a significant public health problem is identified and a solution established.

OSA is a big public health problem because of its high prevalence and drastic effects on health. Obstructive sleep apnoea if left untreated has a poor prognosis in both the short (accidents) and long term (cardiovascular problems).^[7] Given the current magnitude of obstructive sleep apnoea and its implications on health, this disease must now be recognised as a public health problem of the first order. However, there is a clear lack of methodology, infrastructure and resources to deal with this disease, which means that 90% of patients still go undiagnosed. One important factor leading to such a scenario is lack of awareness and training among primary care physicians and other physicians to diagnose OSA as it is a recently described disorder for which most primary care physicians do not have formal training. Physicians currently in practice received little or no formal training in sleep disorders during medical school. Students currently in medical school receive an average of approximately 2 hours of formal education about sleep disorders.^[13] Few PCCs routinely screen patients for OSA, possibly, in part, because there are no published guidelines that provide specific recommendations about whether and how to screen.^[13] There is therefore a growing need to involve and train primary care staff in the diagnosis and referral of OSA patients. The growing number of patients being diagnosed and treated by specialists also makes it increasingly difficult for them to monitor and follow up OSA patients on their own. Therefore, the primary care physicians must be trained so that they acquire sufficient knowledge and expertise both to refer a patient with suspected OSA to the suitable specialist and to conduct a basic follow-up.^[14] The role of primary care in the detection, referral, treatment and follow-up of patients with obstructive sleep apnoea is also important because of the increased prevalence that the disease is acquiring. Some primary care physicians who refer suspected OSA patients, who have concerning symptoms for diagnostic studies, seem to only refer those patients who are sure to have OSA. This reflects in the extremely high rates of positive tests. It also leads to under reporting and missing of the mild cases. The Walla Walla study in Washington State demonstrated that with appropriate education of community physicians and patients, availability of diagnostic equipment, and ongoing consultation with sleep disorders specialists, referral for sleep testing by primary care physicians increased almost 8-fold from 0.27% to 2.1%.^[15] This study emphasized that primary care physicians

should regularly undergo retraining in obstructive sleep apnoea, and the sleep specialists should provide them with educational information and easy referral services. Primary care physicians see enormously more number of patients as compared to the sleep specialists and hence can be of paramount importance in unearthing a large group of patients suspected of having OSA which would otherwise go undetected and undiagnosed. Primary care physicians can be trained to identify even patients with mild OSA resulting in higher referrals and reducing the number of missed patients with OSA.

Conclusion

Teaching of primary care physicians and integration of a sleep assessment into the assessment may increase recognition of sleep disorders. Thus, for that reason, integrated interference and increasing convenience to sleep centers is necessary to improve detection and treatment of OSA.

Ethics and Consent to Participate

All patients were informed about the nature of the research within the hospital and gave informed consent to participate. Information sheets and preliminary interviews made it clear that the choice to consent or otherwise would have no bearing on the treatment offered. The project ensured the anonymity of the subjects by replacing patient names with unique identifying numbers before the statistical procedures began.

Consent and Approval

Ethical clearance for our study was obtained from the ethical committee of the GMC, Srinagar, Kashmir, India.

Human Subjects

Ethical committee of GMC Srinagar issued approval N/A.

Animal Subjects

This study did not involve animal subjects or tissue.

Conflict of Interest

All authors disclose that there was no conflict of interest.

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