GENDER SPECIFIC VARIATION IN CLINICAL PRESENTATION OF OSA.

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ABSTRACT   Introduction: Obstructive sleep apnoea is characterized by episodes of apnoea or hypopnoea , followed by awakening, restoring the airway patency during sleep. It is a risk factor for neuro-cognitive & metabolic complications Prevalence ranges from 2.1 to 7.5% with male: female ratio of 2:1. Objective: To study the difference in clinical presentation among females and males with OSA. Methods :54 patients of 23 -70 yrs age group attending OPD in SUM Hospital were selected. Neck circumference measured & BMI calculated. HADS used to determine levels of anxiety and depression ,Polysomnography for assessment of severity of OSA. Student's t test studied. Results:.Females presented more depression and morning head ache . Discussion: In our study females complained of anxiety and mood changes than males , regarded as neuropsychological variations for under-reporting .Conclusion: Awareness & counselling of females avoids rising complications of OSA , a threaten to public health.

Introduction:

Obstructive sleep apnea   is characterized by repeated episodes of partial or complete obstruction of the upper airway, the pharynx (oro-pharynx) and hypopharynx   leading to complete (apnoea)/partial interruption (hypopnoea) of air , followed by awakening which restores the upper airway patency during sleep.(1). It is an independent risk factor for many neuro-cognitive, cardiovascular & metabolic complications like hypertension, heart failure, heart attack, cardiovascular events and arrhythmias. Unfortunately, it is a common chronic disease that greatly conditions the life of the patient. The 2nd most common respiratory disorder is OSAS .In India the prevalence of OSA is reported to be 7.5%. (2) Despite high prevalence of OSAS and associated complications majority of cases remain under diagnosed. Reports from Asian countries shows prevalence range from 2.1 to 7.5% with a male: female ratio of 2:1. (3,4). Females due to socio-cultural factors and awareness deficiency present the symptoms of OSA at later stage which is a threaten to Public health .

Key Words: Polysomnography, HAD scale, Berlin Questionnaire, ESS, Clinical presentation

Objective:

To study the difference in clinical presentation among females and males with OSA.

Methods:

A total of 96 cases , of 23 -70 yrs age gr. of both genders attending the OPD and admitted cases in Cardiology, obesity clinic ,Endocrinology ,Psychiatry & Pulmonary medicine were examined & interviewed on the basis of standardized Berlin Questionnaire [5] & Epworth Sleepiness Scale[6] .Patients with suspected OSA were segregated . Out of 96 cases 11 cases were females & rest 43 were males. Anthropometric measures like Height & weight were measured & BMI calculated. Weight measured with light clothing and without shoes with weighing machine. Height was measured without shoes. BMI was calculated by dividing weight (kg) with the square of height (m). Neck Circumference was measured in the midway of the neck, between mid-cervical spine and mid anterior neck, to within 1 mm, using measuring tape with the subjects standing upright. In men with a laryngeal prominence (Adam's apple), it was measured just below the prominence. While taking this reading, the subject was asked to look straight ahead, with shoulders down, but not hunched. Care was taken not to involve the shoulder/neck muscles (trapezius) in the measurement. Subjects with any thyroid disorder or Cushing's disease, and pregnant and lactating women were excluded from the study. Neck circumference is a potentially useful initial screening tool for overweight/obesity [7]. A neck circumference > or = 35.5 cm in men and > or = 32 cm in women should be considered the cut off point for overweight /obesity. A valid , reliable & self rating screening scale is Hospital Anxiety and Depression Scale (HADS) developed by Zigmond and Snaith (1983)[8]used to   determine the levels of anxiety and depression that a patient is experiencing with physical health problem .It is a fourteen item scale that generates ordinal data. Seven of the items relate to anxiety and seven relate to depression, can be answered within 3-5 minutes. Personal history, including occupation performance, job risks for self as well as for others, habit of alcohol consumption, smoking were noted. Overnight sleep study/ Polysomnography [9] was done in 54 cases (males 43 and females 11) after signing written consent form, using Respironics Alicex 6 in IMS & SUM Hospital, Bhubaneswar for diagnosis and assessment of severity of OSA. According to Apnoea & hypopnoea (AHI) values sleep apnoea was classified .The AHI is calculated by dividing the number of apnoea events by the number of hours of sleep[10] AHI Classified as Normal: 0-4, Mild sleep apnea: 5-14, Moderate

sleep apnea: 15-29, Severe sleep apnea: 30 or more. Exclusion criteria: Pt. who did not sleep for whole night, sleep efficiency < 40% & unwilling to do Polysomnography.

Statistical analysis: SPSS version 20 used .Patients divided according to the genders .Using student's t test comparison of quantitative variables studied. Categorical variables among two groups studied by chi-square (x2) test. Pearson correlation coefficient as a measure of the strength of a relationship between two variables studied.

Results:

96 cases from different departments were referred to the Sleep clinic of IMS & SUM Hospital, Bhubaneswar. 54 males & females were examined by HAD (Hospital Anxiety and Depression) rating scale .Females in comparison to males had more depression , anxiety ,unable to concentrate ,mood changes ,irritability and morning head ache . Males complained of snoring, drowsy driving, nocturia, unexplained weight gain & excessive day time sleepiness. Post menopausal women had more snoring in comparison to other females .Mean BMI in males was (33.82± 6.71kg/m2), found to be significantly higher than females (30.9±

5.23kg/m2).Neck circumference in males was (36.8 ± 5.43cm) and higher than females (31.6 ± 2.9cm), which was statistically significant (p< 0.003).29 (67.4%)males had habit of both smoking and alcohol use .21 males had occasional habit of smoking or alcohol use . In females no such h/o alcohol or smoking was recorded. Blood pressure recorded in both genders were higher, but males had more higher BP than females.

	Females (n=11)		Severity of OSA			Males (n=43)		Severity of OSA		
	Nos	%	Mild	Moderate	Severe	Nos	%	Mild	Moderate	Severe
Depression early morning headache	7	63.6	(28.5%)	(42.8%)	(28.5%)	2	.6	0	0	2
EDS	5	45.4				31	72			
Snoring	5	45.4				40				
Neck circumference	31.6 ±2.9 cm				36.8± 5.43cm					
BMI	30.9 ±5.23 Kg/m2				33.82± 6.71kg /m2					

Discussion:

Population based prevalence studies suggest that epidemiologically 7.5% of adult suffer from OSA with a ratio of male:female ratio of 2:1. [2]Our study was done to evaluate gender specific variation in clinical presentation of OSA. In OSA snoring ,somnolescence are the most common presenting symptoms.In our study the above features were significantly more common in males than females ,where as females complained of more fatigability ,anxiety, irritability and mood

changes. This may be regarded as neuropsychological variations leading to under-reporting in females .Psychiatric co-morbidity in OSA adversely affect the quality of life . 54.5% Postmenopausal females in our study complained of anxiety disorders along with OSAS. These complain like mood changes & irritability was supported by study done by Peretz Lavie & Baruch al-ed of Isreal and is due to disrupted sleep architecture and intermittent hypoxemia. Excessive day time sleepiness in cases of OSAS leads to neuropsychological & affective domains .These cases has to be diagnosed early, counselled for appropriate Continuous Positive Airway Pressure treatment at the earliest possible. Studies done by Laurence Robichaud-Hallé(12) showed there is increasing potential association between OSA and multi morbidity. So to prevent complications of metabolic disorders & psychological disorders early intervention is necessary.29 males (67.4%) had both h/o alcohol & smoking use.21 males (48.83%)had occasional habit of alcohol or smoking . According to studies done by Katz, J. Stradlingan et al (13) showed increased neck circumference and degree of obesity are important predictors of sleep apnoea. In our study BMI in males was (33.82± 6.71kg/m2) & males with higher BMI had more Neck circumference than females, and suffered from OSA, which supports Katz's study.

Conclusion: Due to socio-cultural factors in women clinical expression of OSA is under diagnosed .Careful clinical history taking and interpretation should be done in both males and females to reveal the features of OSA. Patient's behaviour has to be reviewed. Proper awareness & counselling of female patients should be done to prevent neglected, under diagnosed disorder from rising prevalence of complications of OSA which is a threaten to public health.

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