



IDENTIFICATION OF RISK FACTORS AND RISK STATUS OF OBSTRUCTED SLEEP APNOEA (OSA) AND PROBLEM FACED BY MIDDLE AGED PERSON ATTENDING GENERAL MEDICINE OUTPATIENT DEPARTMENT (OPD) OF SELECTED HOSPITAL, KOLKATA.

Olyvia Ghosh

M.Sc. Nursing Student, West Bengal Govt. College Of Nursing, Kolkata-20

Mrs. Moitreyee Choudhuri*

Reader, West Bengal Govt. College Of Nursing, Kolkata-20 *Corresponding Author

ABSTRACT

Obstructive sleep apnea (OSA) is the most common type of sleep apnea and is caused by complete or partial obstructions of the upper airway. Global and Indian prevalence of OSA is identified as 2%-7% and 9.3% respectively. A descriptive survey was undertaken with the objectives to identify the risk factors, to determine the risk status, to identify the problems of obstructive sleep apnea among middle aged person between the age group of 40-65 years and to find out the association between risk factors of obstructive sleep apnoea and selected demographic variables. The study settings was in the general medicine out patient department (OPD) of selected hospital, Kolkata. A valid and reliable semi-structured interview schedule was used to collect the data from 200 respondents who were selected through non probability purposive sampling. The study findings revealed that among all respondents, 39.5% of them were having the history of snoring and according to Berlin Questionnaire, 40.5% of the respondents were at high risk and 59.5% of the respondents were at low risk of developing OSA. The study concluded that most of the respondents were at low risk for developing OSA and most of the respondents having disturbed sleep at night.

KEYWORDS :

INTRODUCTION: Non communicable diseases kill 40 million people each year, equivalent to 70% of all deaths globally. Each year, 15 million people die from non communicable diseases between the ages of 30 and 69 years; over 80% of these "premature" deaths occur in low- and middle-income countries. Cardiovascular diseases account for most non communicable diseases deaths, or 17.7 million people annually, followed by cancers (8.8 million), respiratory diseases (3.9million), and diabetes (1.6 million). There are several hundred of epidemiological studies assessing different sleep complaints and disorders in the general population. Obstructive Sleep Apnea Syndrome, often associated with insomnia or excessive sleepiness, is found in approximately 2% to 4% of the general population and has a higher prevalence in men than in women. Unfortunately, despite the high prevalence, sleep disorders remain poorly identified; less than 20% of individuals with insomnia are correctly diagnosed and treated.

MATERIALS AND METHODS:**Study area**

The present study was conducted in the general medicine OPD, chest OPD and endocrine clinic of IPGME&R and SSKM hospital.

Study design

Descriptive survey research design.

Duration of study

From 06.11.2017 to 02.12.2017

Ethical consideration

This study was conducted after taking permission from ethical committee of IPGME & R, SSKM Hospital, Kolkata. Formal permission from Principal, West Bengal Govt. College Of Nursing, SSKM Hospital campus, from Director of Health Services of WB. Informed consent was taken for maintenance of confidentiality will be assured to them.

Data collection tools and technique

Table 1 Data collection Tools and Techniques

Tool no.	Tools	Variables to be measured	Techniques / Methods
I	Semistructured questionnaire	Demographic variables	Interviewing
II A	Physical examination proforma	Identification of risk factors of OSA.	Measurement
II B	Structured checklist	Identification of risk factors of OSA.	Interviewing
II C	Record analysis proforma	Identification of risk factors of OSA.	Interviewing

III	Structured Berlin Questionnaire	Identification of risk status of OSA.	Physical examination and interviewing
IV	Structured checklist	Identification of problems faced due to OSA.	Interviewing

Validity

The 8 experts were selected as per their clinical expertise, experience and interest in the problem area. Out of 8 expert, 3 from the pulmonary medicine and sleep medicine and 5 from the nursing field. Almost 100 % agreement were there in all areas.

Reliability**Tool I A**

Reliability of physical examination proforma to identify risk factors of OSA was computed by using inter-rater reliability method. The result was 1.00 indicating adequate reliability of the tool.

Tool II B

Reliability of structured interview schedule to identify risk factors of OSA was computed by using inter-rater reliability method. The result was 1.00 indicating adequate reliability of the tool.

Tool II C

Reliability of record analysis proforma to identify risk factors of OSA was computed by using inter-rater reliability method. The result was 1.00 indicating adequate reliability of the tool.

Tool III

Reliability of the structured questionnaire had been established from the obtained score after single administration of tool on 10 subjects. The reliability was calculated by using Spearman Brown Prophecy method where r was found to be 0.88 indicating adequate reliability of the tool.

Tool IV

Reliability of structured interview schedule to identify the problems related to OSA was computed by using inter-rater reliability method. The result was 1.00 indicating adequate reliability of the tool.

Data collection

- Prior permission was obtained from Medical Superintendent Cum Vice Principal, Principal, Nursing superintendent and Head of the Department (Chest, endocrinology and obesity clinic) of IPGME&R and SSKM Hospital.
- Data were collected from 06.11.2017 to 02.12.2017 at SSKM Hospital on 200 subjects.
- Self introduction started initially to develop rapport with the subjects.

- Written consent was obtained from each subject and purpose of the study will be clearly explained.
- Data from 200 middle aged persons collected by the semi structured interview schedule and by measuring height and weight and neck circumference.
- Respondents were made comfortable by making them to sit into chair.
- Data were collected by using semi structured interview schedule and by measuring their height, weight and neck circumference.
- It took about 35 minutes to respond the interview schedule which was followed by measurement of their height , weight and neck circumference.

RESULTS AND INTERPRETATION

Demographic criteria

Age in years

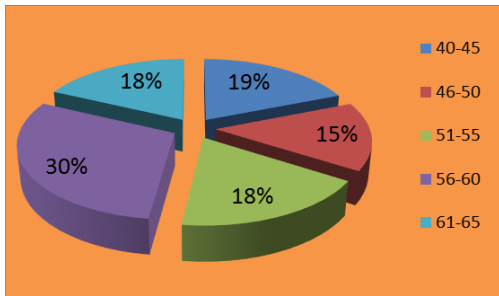


Figure 1 Pie diagram showing age in years of the middle aged persons

Figure 1 shows that 38 (19%) middle aged persons were in the age group of 40-45 years, 30 (15%) of them belonged to the age group of 46-50 years, 36 (18%) of them belonged to the age group of 51-55 years, 60 (30%) of them belonged to the age group of 56-60 years and 36 (18%) of them were 61-65 years of age group.

Gender

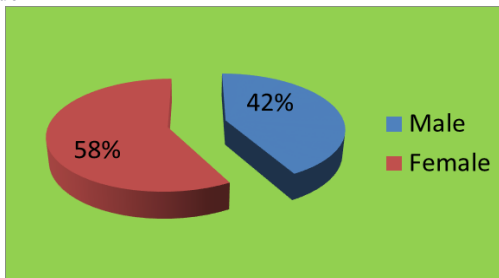


Figure 2 Pie diagram showing gender of the middle aged persons

Figure 2 shows that 84 (42%) middle aged persons were male and 116 (58%) of them were female.

Table 2: Frequency and percentage showing identification of the risk factors of OSA among middle aged person by measurement of neck circumference and BMI.

n=200

Risk factors	Frequency	Percentage
Neck circumference of male (in cm)		
<43	77	38.5
>43	07	3.5
Neck circumference of female (in cm)		
≤38	101	50.5
>38	15	7.5
BMI		
<30	170	85
≥30	30	15

Data presented in table 2 shows that 77(38.5%) middle aged male person had neck circumference ≤43 cm and 07 (3.5%) of them had neck circumference >43 cm.

It also shows that 101(50.5%) middle aged female person had neck circumference ≤38 cm and 15 (7.5%) of them had neck circumference >38 cm.

It also shows that 170 (85%) middle aged person had BMI <30 kg/m² and 30 (15%) of the middle aged persons had BMI ≥30 kg/m².

Mallampati scoring

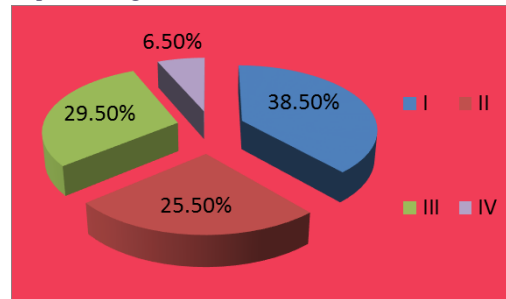


Figure3 Pie diagram showing mallampati scoring of the middle aged persons

Figure 3 shows that risk factors of middle aged person as per Mallampati scoring, where 77 (38.5%) of them scored I which means complete visualization of soft palate and uvula , 51 (25.5%) of them scored II which means complete visualization of soft palate, 59 (29.5%) of them scored III which means visualization of the base of the uvula and only 13 (6.5%) of them scored IV which means soft palate is not at all visible.

Risk status of OSA

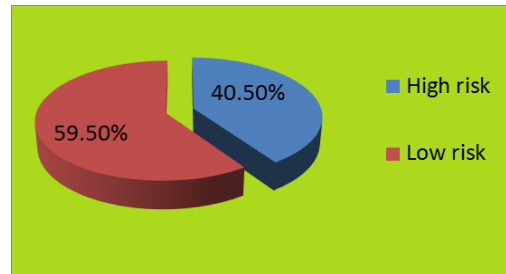


Figure 4 Pie diagram showing risk status of OSA among middle aged persons

Figure 4 shows that 81 (40.5%) of the respondents had high risk of OSA and 119 (59.5%) of the respondents had low risk status of OSA.

Sleeping pattern at night

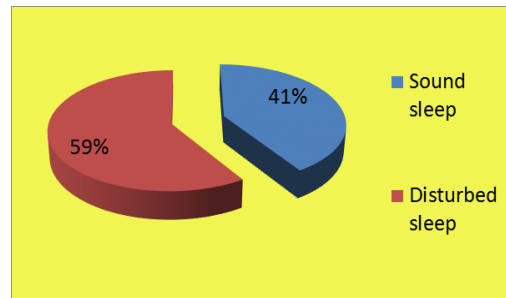


Figure 5 Pie diagram showing sleeping pattern at night among middle aged persons

Figure 5 shows that 82 (41%) of middle aged persons had sound sleep and 118 (59%) of them had disturbed sleep at night.

Table 3: Frequency and percentage showing probable causes of sleep disturbance at night related to OSA among middle aged person.

n1=118

Causes of sleep disturbances	Frequency	Percentage
Awakening by choking	04	1.07
Awakening by gasping	08	2.14
Feeling shortness of breath	26	6.95
Increased frequency of urination during night time	92	24.60

Dry mouth after awakening	78	20.86
Sore throat after awakening	16	4.28
Morning headache after awakening	44	11.76

Multiple responses included

Data presented in table 3 shows that among the respondents who had disturbed sleep at night , 04 (1.07%) of them had problems of awakening by choking while sleeping, 08 (2.14%) of them had complained of awakening from sleep by gasping, 26 (6.95%) of them had complained of feeling shortness of breath during sleep, 92 (24.60%) of them had increased frequency of urination during night time, 78 (20.86%) of them had complained of dry mouth after awakening, 16 (4.28%) of them had complained of sore throat after awakening, and 44 (11.76%) of them had complained of morning headache after awakening.

DISCUSSION

Findings related to identification of risk factors of OSA

Kristin J. Addison-Brown et al (2013) conducted a study on the association of Obstructed Sleep Apnea risk with cognition and quality of life shows that participants with high OSA risk were younger on average , more likely to be male and more likely to have diabetes and dyslipidaemia than those at low risk.

Findings related to risk status of OSA

S.K.Sharma et al (2015) conducted a similar study to identify patients at risk for the obstructive sleep apnoea syndrome by using modified Berlin questionnaire revealed that out of the 180 respondents to the screening questions, 80 were in the high risk and the rest were in low risk group.

Findings related to problems faced among middle aged person suspected for OSA

Joaquin Duran et al.(2010) done another similar study on Obstructive Sleep Apnea–Hypopnea and Related Clinical Features . The first phase, completed by 2,148 subjects, included a home survey, blood pressure, and a portable respiratory recording, whereas in the second, subjects with suspected OSAH and a subgroup of those with normal results were invited to undergo polysomnography. Study showed that daytime hypersomnolence occurred in 18% of the subjects and was not associated with OSAH.

CONCLUSION

In the present study majority of the respondents were at low risk of developing OSA according to Berlin Questionnaire. The study also revealed that among the risk factors, average number of the respondents were having the history of snoring, very few of them having BMI ≥ 30 kg/m² and majority of them scored Mallampati scoring 1 that means their airways were completely open. It also showed that among all respondents, very few of them having larger neck circumference. The study also presented that, among all respondents majority of them having disturbed sleep at night and the most common probable causes of sleep disturbance at night were increased frequency of urination at night and dry mouth after awakening. The chi - square value showed only significant association between monthly family income and snoring. Other than that there is no statistical significant association between risk factors of OSA and selected demographic variables .