INTERNATIONAL JOURNAL OF RESEARCH CULTURE SOCIETY
Monthly Peer-Reviewed, Refereed, Indexed Journal
Volume - 10, Issue - 8, August - 2026
ISSN(O): 2456-6683
[Impact Factor: 9.241]
IJRCS

DOIs:10.2017/IJRCS/202608009 --:-- Research Paper / Article / Review

A Study to Assess Prevalence of Obstructive Sleep Apnea Among Clients on Atypical Antipsychotics Therapy Attending Psychiatric OPD at Selected Hospital, Dehradun, Uttarakhand

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Abstract: *A descriptive cross-sectional study was conducted to assess prevalence of obstructive sleep apnea among clients on atypical antipsychotics therapy attending psychiatric OPD at selected hospital, Dehradun, Uttarakhand. The study included 130 clients selected using a non-probability purposive sampling technique. The conceptual framework was based on* Betty Neuman's Model. *Data were collected using a structured demographic questionnaire and the STOP-Bang Questionnaire. The findings revealed that 56.2% of the participants were at moderate risk, 39.2% were at high risk (severe), and 4.6% were at low risk (mild) for obstructive sleep apnea. The mean STOP-Bang score was 4.20 ± 0.97. Statistical analysis showed no significant association between obstructive sleep apnea and the selected demographic variables ($p > 0.05$)*

Key Words: *Obstructive sleep apnea, Atypical Antipsychotics Therapy ,STOP-Bang Questionnaire, Prevalence*

1. INTRODUCTION:

A prevalent but sometimes disregarded sleep illness, obstructive sleep apnea (OSA) causes recurrent episodes of airway obstruction during sleep, which disrupts sleep and lowers oxygen levels. Because atypical antipsychotic therapy can result in weight gain, metabolic changes, and sedation—all of which are known risk factors for OSA—clients undergoing this treatment may be at an increased risk of developing the illness. OSA can negatively impact one's physical and mental well-being and perhaps lower one's overall quality of life if it is not recognized. Early screening with a straight forward and trust worthy instrument like the STOP-Bang Questionnaire can assist with identifying people who are at risk.

2. OBJECTIVES:

- To assess the prevalence of obstructive sleep apnea among clients on atypical antipsychotics therapy.
- To find the association between obstructive sleep apnea among clients on atypical antipsychotic therapy with their selected demographic variables

3. RESEARCH METHOD / METHODOLOGY:

A descriptive cross-sectional study with non-probability purposive sampling was conducted among 130 patients on atypical antipsychotics attending psychiatric OPD at selected hospitals in Dehradun, Uttarakhand, who met inclusion criteria and gave informed consent. Data were collected using a demographic questionnaire and the STOP-Bang Questionnaire, and analysed using descriptive and inferential statistics.

TOOLS AND TECHNIQUE :

- **TOOL A-** Socio demographic variables.
- **TOOL B-** STOP- Bang Questionnaire to identify individuals at risk for obstructive sleep apnea based on their snoring behaviour, daytime sleepiness, and history of hypertension or obesity.

SCORE INTERPETATION

SCORING	SCORE INTERPRETATION
0 – 2	Low risk of OSA
3 - 4	Intermediate risk of OSA
5 – 8	High risk of OSA

- Participants with two or more positive categories are classified as high risk for obstructive sleep apnea.
- Participants with less than two positive categories are classified as low risk for obstructive sleep apnea.

VALIDITY AND RELIABILITY

Six nursing professionals were consulted in order to establish the content validity of the study tool. Based on their recommendations, the necessary changes were implemented. An instrument's consistency in measuring the desired feature is referred to as reliability. The split-half method was used to assess the reliability of the STOP-Bang Questionnaire in pilot research including 14 individuals. The Spearman–Brown prophecy formula was used to compute the reliability coefficient, which came out to be r = 0.76, suggesting that the instrument's dependability was adequate.

ETHICAL CONSIDERATION:

The study was authorized ethically by the State College of Nursing, Dehradun's Institutional Ethics Committee. Prior to any data collection, the relevant authorities of the chosen hospitals granted administrative authorization. Before any data was collected, written informed consent was obtained from all participants. Throughout the whole trial, participant anonymity and confidentiality were preserved. Participants were made aware that participation was entirely voluntary and that they might leave the study at any time without incurring any fees.

4. ANALYSIS AND FINDINGS:

This chapter presents the analysis, interpretation, and presentation of data obtained from 130 clients attending the Psychiatric OPD at selected hospital in Dehradun, Uttarakhand. The findings are presented according to the objectives of the study with the help of tables and figures.

Organization of the findings

Section A: Frequency and percentage distribution of clients on atypical antipsychotic therapy according to demographic variables.

Section B: Frequency and percentage distribution of level of obstructive sleep apnea.

Section C: To find the association between obstructive sleep apnea among clients on atypical antipsychotic therapy with selected demographic variables

Table 1: Frequency and percentage distribution of clients on atypical antipsychotic therapy according to demographic variable

N=130

S.NO	DEMOGRAPHIC VARIABLES	FREQUENCY	PERCENTAGE
1.	AGE IN YEARS		
	• 18-28	31	23.8
	• 29-39	50	38.4
	• 40-50	29	22.3
	• Above 50	20	15.3
2.	GENDER		
	• MALE	89	68.4
	• FEMALE	41	31.5
3.	EDUCATIONAL STATUS		
	• NO FORMAL EDUCATION	28	21.5
	• PRIMARY	39	30.0
	• SECONDARY	33	25.4
	• GRADUATE AND ABOVE	30	23.1

4.	INCOME IN Rs. • LESS THAN 10,000 • 10,000-20,000 • 20,001-40,000 • ABOVE 40,000	 15 64 40 11	 11.5 49.2 30.8 8.5

Age shows that, the highest proportion of participants, 50 (38.4%), belongs to the 29–39 years age group, followed by 31 (23.8%) participants in the 18–28 years age group, 29 (22.3%) in the 40–50 years age group, 14 (10.8%) and 20(15.3%) participants were above 50 years of age, Gender, shows that the majority of participants, 89 (68.4%), were males, whereas 41 (31.5%) were females, Educational status shows that, 39 (30.0%) participants had primary education, 33 (25.4%) had secondary education, 30 (23.1%) were graduates and above, and 28 (21.5%) had no formal education, Income shows that, nearly half of the participants, 64 (49.2%), had a monthly income ranging from ₹10,000 to ₹20,000, followed by 40 (30.8%) participants with an income between ₹20,000 and ₹40,000. Furthermore, 15 (11.5%) participants had an income of less than ₹10,000, while 11 (8.5%) participants reported a monthly income of above ₹40,000.

S.NO	DEMOGRAPHIC VARIABLES	FREQUENCY	PERCENTAGE
5.	SMOKING HABIT • YES • NO	 70 60	 53.8 46.2
6.	ALCOHOL CONSUMPTION • YES • NO	 56 74	 43.1 56.9
7.	OTHER SUBSTANCE USE • YES • NO	 35 95	 26.9 73.1
8.	LEVEL OF PHYSICAL ACTIVITY • SEDENTARY • OCCASIONAL • MODERATE • REGULAR	 4 33 86 7	 3.07 25.38 66.15 5.4

Smoking habits, 70 (53.8%) participants reported smoking, whereas 60 (46.2%) participants reported not smoking, Alcohol consumption, the majority of participants, 74 (56.9%), reported not consuming alcohol, while 56 (43.1%) reported alcohol consumption, Other substance use shows that, the majority of participants, 95 (73.1%), not using any other substances, whereas 35 (26.9%) participants using other substances, Level of physical activity shows that, the highest proportion of participants, 86 (66.15%), a moderate level of physical activity. This was followed by 33 (25.38%) participants who occasional physical activity, 7 (5.4%) participants who reported regular physical activity, and 4 (3.07%) participants who reported a sedentary lifestyle.

S.NO	DEMOGRAPHIC VARIABLES	FREQUENCY	PERCENTAGE
9.	FAMILY HISTORY OF SNORING • YES • NO	 72 58	 55.4 44.6
10.	DURATION OF MENTAL ILLNESS • BELOW 1 YEAR • ABOVE 1 YEARS	 28 102	 21.5 78.5

11.	DURATION OF ANTIPSYCHOTIC TREATMENT • BELOW 1 YEAR • ABOVE 1 YEARS	 64 66	 49.2 50.8

Family history of snoring shows that, the majority of participants, 72 (55.4%), reported a positive family history of snoring, whereas 58 (44.6%) participants reported no family history of snoring, Duration of mental illness shows that, the majority of participants, 102 (78.5%), had a duration of mental illness measured in years, whereas 28 (21.5%) participants had a duration of mental illness measured in months, Duration of antipsychotic treatment shows that, 66 (50.8%) participants had been receiving antipsychotic treatment for above 1 years, while 64 (49.2%) participants had been receiving treatment for below 1 year.

Table 2: Frequency and percentage distribution of level of obstructive sleep apnea
N=130

S.NO.	ASSESSMENT OF OSA		FREQUENCY	PERCENTAGE
1.	**Level**	Mild OSA	6	4.61
2.		Moderate OSA	73	56.2
3.		Severe OSA	51	39.2

The above table shows that among 130 participants, 73(56.2%) had moderate OSA, 51(39.2%) had severe OSA, and 6(4.61%) had mild OSA. The mean STOP-BANG score was 4.20 ± 0.97. The findings indicate that the majority of participants had moderate OSA.

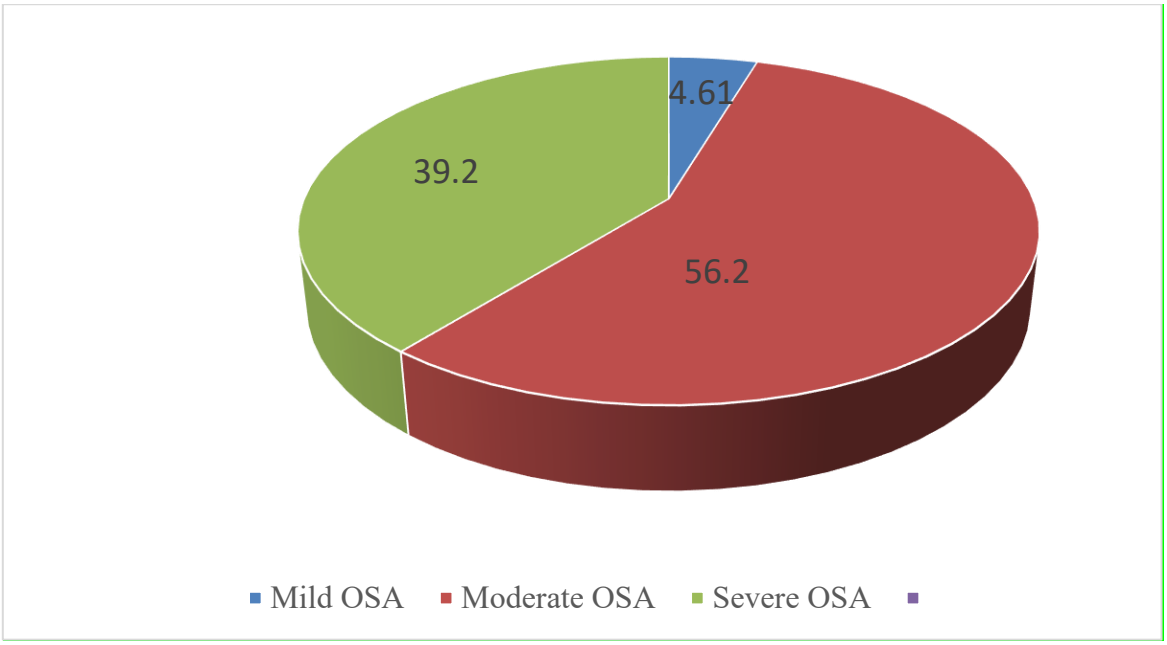

Fig 1: Pie diagram showing that Frequency and percentage distribution of level of obstructive sleep apnea.

5. DISCUSSION :

This chapter discusses the findings of the present study in relation to the objectives and compares them with findings from previous research. It also interprets the results and highlights their significance in nursing practice.

The aim of the study was to assess prevalence of obstructive sleep apnea among clients on atypical antipsychotic therapy attending psychiatric OPD at selected hospital, Dehradun, Uttarakhand.

The finding of the study was analysed by using descriptive statistics [mean, standard deviation, frequency and percentage] and inferential statistics [chi-square].

The first objective of the study was to assess the prevalence of obstructive sleep apnea among clients receiving atypical antipsychotic therapy.

The findings of the present study revealed that 56.2% of the participants had a moderate risk of obstructive sleep apnea, 39.2% had a high risk, and 4.6% had a low risk as assessed by the STOP-Bang Questionnaire. These findings indicated that the majority of clients receiving atypical antipsychotic therapy were at moderate to high risk of obstructive sleep apnea.

Second objective was to find the association between obstructive sleep apnea among clients on atypical antipsychotic therapy with their selected demographic variables

The findings revealed that there was no statistically significant association between obstructive sleep apnea and selected demographic variables, including age, gender, educational status, monthly income, smoking habit, alcohol consumption, other substance use, level of physical activity, family history of snoring, duration of mental illness, and duration of antipsychotic treatment ($p > 0.05$). These findings indicate that the selected demographic variables did not significantly influence the risk of obstructive sleep apnea among the study participants.

6. CONCLUSION: The present study concludes that a considerable proportion of clients receiving atypical antipsychotic therapy were at risk of obstructive sleep apnea, with the majority of participants being at moderate risk. No statistically significant association was found between obstructive sleep apnea and the selected demographic variables. The findings emphasize the importance of routine screening using validated tools, such as the STOP-Bang Questionnaire, for the early identification and timely management of obstructive sleep apnea, thereby improving the quality of care and health outcomes among clients receiving atypical antipsychotic therapy**.**

7. LIMITATIONS:

- Obstructive sleep apnea was assessed using the STOP-Bang Questionnaire, not diagnostic sleep studies.
- Participants' responses may be influenced by lack of awareness about sleep-related symptom.

8. RECOMMENDATIONS:

- The study can be replicated on a larger sample for generalization of findings.
- A similar study can be replicated in different settings to strengthen the findings.
- Longitudinal studies may be undertaken to assess the long-term effects of atypical antipsychotic therapy on the development and progression of obstructive sleep apnea.

Educational programmes, workshops, and continuing nursing education sessions should be organized to enhance nurses' knowledge and skills regarding the early identification, screening, and management of obstructive sleep apnea among clients receiving atypical antipsychotic therapy

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