

Unmasking Obstructive Sleep Apnea in Diabetic population

PRIYADHARSHINI.S ,DR.PRINCY LOUIS PALATTY ,DR.MAMATHA JAYACHANDRAN,DR.NISHA BHAVANI

INTRODUCTION

- **Obstructive Sleep Apnea (OSA)** – intermittent hypoxia, fragmented sleep, global burden (~1 billion), underdiagnosed.
- **Prevalence & Screening** – OSA in diabetics (58–86%), nonspecific symptoms, lack of routine screening.
- **Missed Diagnoses** – silent OSA in non-obese diabetics, normal BMI does not exclude risk.
- **OSA Pathophysiology** – sympathetic activation, oxidative stress, systemic inflammation.
- **Clinical Relevance** – early detection, STOP-BANG questionnaire, improved glycemic control, reduced complications.

METHODOLOGY

Study Design → Case control study



Study Setting → Department of Endocrinology, Diabetic Clinic, AIMS



Study Duration → 1 year
(Data collection: Dec 2023 – Apr 2024)



Sampling Method → Purposive sampling



Study Population →
case- Patients attending diabetic clinic for therapy
Control- bystanders in other opd and students within the campus



Recruitment Process →
Eligible patients (based on inclusion and exclusion criteria) approached → Informed consent obtained



Data Collection Tool →
STOP-BANG questionnaire administered to participants

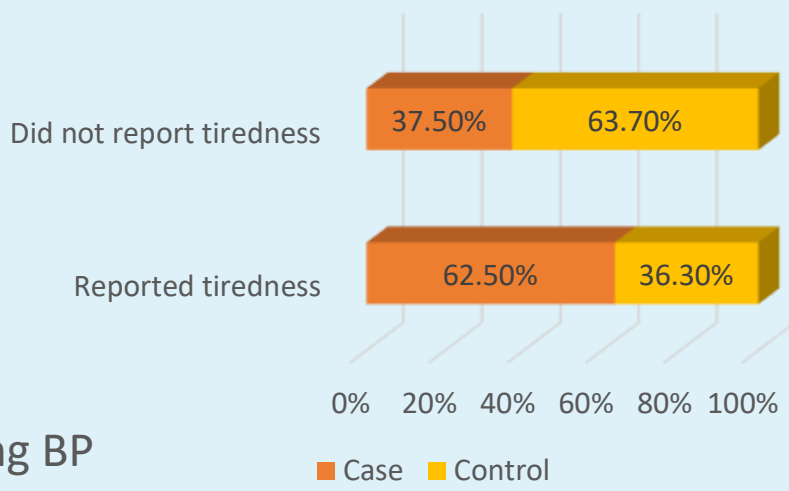
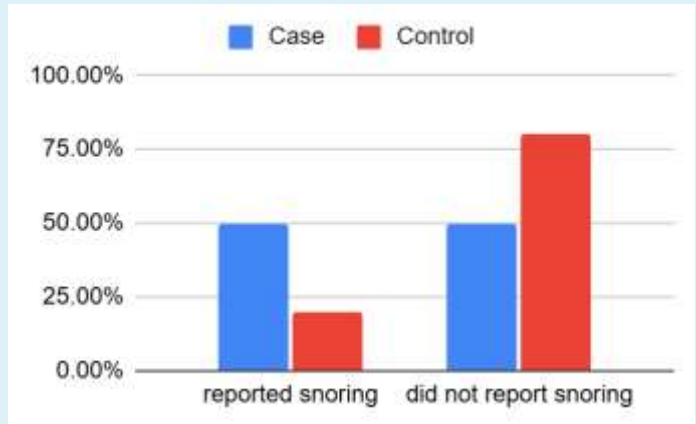


Procedure →
Participants fill the questionnaire → Total STOP-BANG score calculated

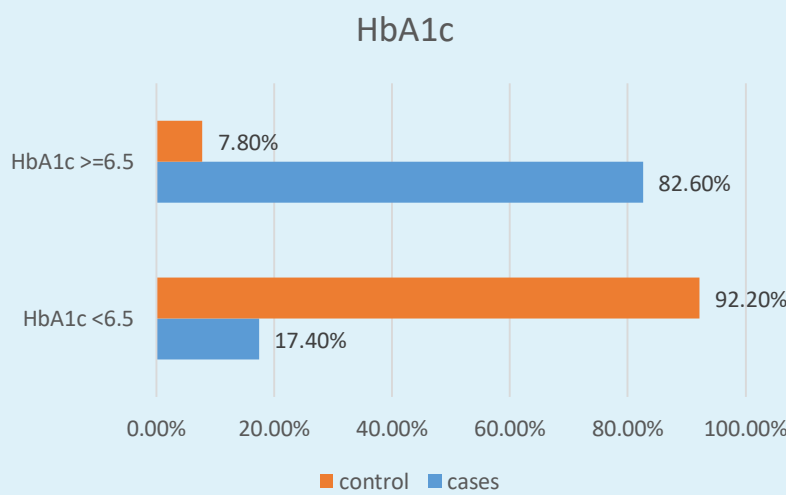
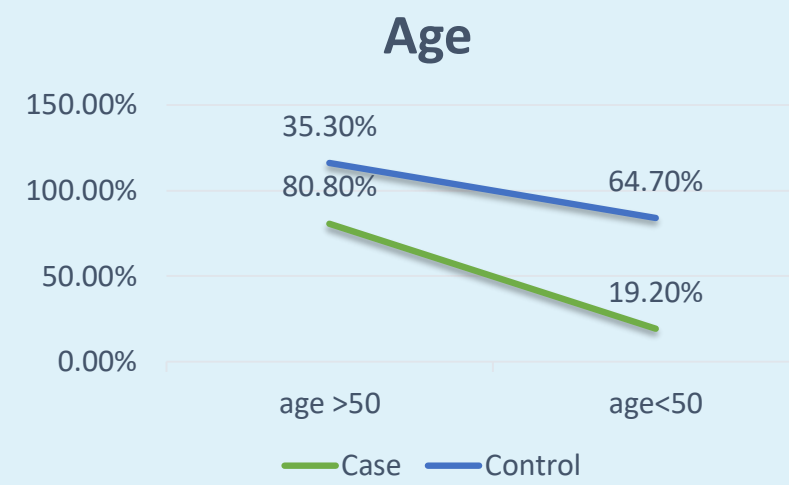
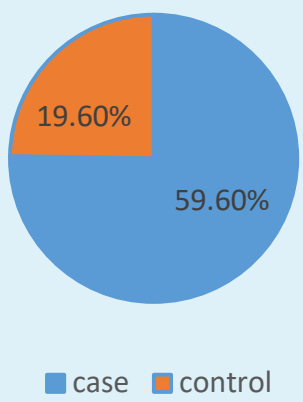


Data Analysis →
Scores compiled → Risk of OSA assessed among diabetic and non diabetic participants

OBSERVATIONS AND RESULTS



reported having BP



DISCUSSION

Individuals in the high-risk total score category are approximately 21.8 times more likely to be in the case group than those in the low-risk category, indicating a strong association between higher total scores and disease status.

In the study conducted between diabetic and non-diabetic participants, a significant association was found between OSA and factors such as snoring, daytime sleepiness (feeling tired during the day), blood pressure, age, neck circumference, and HbA1c levels. However, no significant association was observed between gender and BMI

IN DIABETIC PARTICIPANTS :

Only 27 participants, only a small fraction (2.9%) had a STOP-BANG score of 0, indicating low risk. (26.0%) were classified as **low risk**, suggesting that just over a quarter of the diabetic sample showed minimal indicators of OSA. In contrast, **46 participants (44.2%)** were at **intermediate risk**, and **31 participants (29.9%)** fell into the **high-risk** category.

74.1% of participants are at moderate to high risk for OSA.

The results show that 52 individuals (50%) reported snoring, while the other 52 individuals (50%) did not.

This balanced distribution suggests that snoring is a common occurrence in this sample, with half of the participants affected.

the distribution of high blood pressure (BP) among a sample of 104 individuals. Out of the total sample, 62 individuals (59.6%) reported having high blood pressure, while 42 individuals (40.4%) did not. Single line

The majority of participants (94.2%) had a BMI below 35 and most scored between 3 and 5 on the total score scale, indicating moderate levels. Extreme BMI and total score values were rare, suggesting a generally balanced sample.

In this study, exactly half of the diabetic participants (50%) reported habitual snoring, this finding is notable because snoring is often the most recognized clinical sign associated with Obstructive Sleep Apnea (OSA). the equal distribution of those who did not report snoring may not suggest underreporting, especially if they live alone are not informed of their sleep behaviour

CONCLUSIONS

- **Increased Risk:** Diabetes → Higher likelihood of Obstructive Sleep Apnea (OSA)
- **Complications:** Worsens glycemic control, BP, and cardiovascular health
- **Diagnostic Challenge:** Symptoms (fatigue, snoring) often overlooked
- **Limited Treatments:** CPAP effective, but poor compliance; alternative options under investigation
- **Participants classified as high risk had 21.8 times higher odds of having OSA compared to those classified as low risk (OR = 21.8)**

Reference

- 1- Khosravan S, Alami A, Rahni G. Prevalence of sleep disorders and related factors among patients with type 2 diabetes. *J Health Promot Res.* 2015 Autumn;3(5):298-304.
- 2- Shnaimer JA, Dahlan HM, Hanbashi FM, Bahammam AS, Gosadi IM. Assessment of the risk of obstructive sleep apnoea among patients with type 2 diabetes and its associated factors using the STOP-BANG questionnaire: A cross-sectional study. *J Taibah Univ Med Sci.* 2022;17(4):606–13. doi:10.1016/j.jtumed.2021.11.013.

TAKE HOME MESSAGE

- OSA risk is high in T2DM—BMI, age & gender key. Early STOP-BANG screening essential.

CONTACT

priyahome226@gmail.com