

Obstructive sleep apnea, anxiety and depression symptoms in men with coronary artery disease

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Background

Obstructive sleep apnea (OSA) is a common sleep disorder which can result in mood problems. Studies show that depression and anxiety symptoms are the most prevalent psychological disturbances in OSA [1]. High prevalence of anxiety and depression is also present in coronary artery disease patients (CAD) [2]. High OSA morbidity with CAD is reported [3]. However, there is a lack of studies investigating mood problems in CAD patients with OSA.

Aim

The aim of the study was to evaluate depression and anxiety symptoms in patients with different severity of OSA.

Methods

Participants:

964 male patients attending a cardiac rehabilitation program during the period from 2007 October to 2013 January were invited to participate in the study.

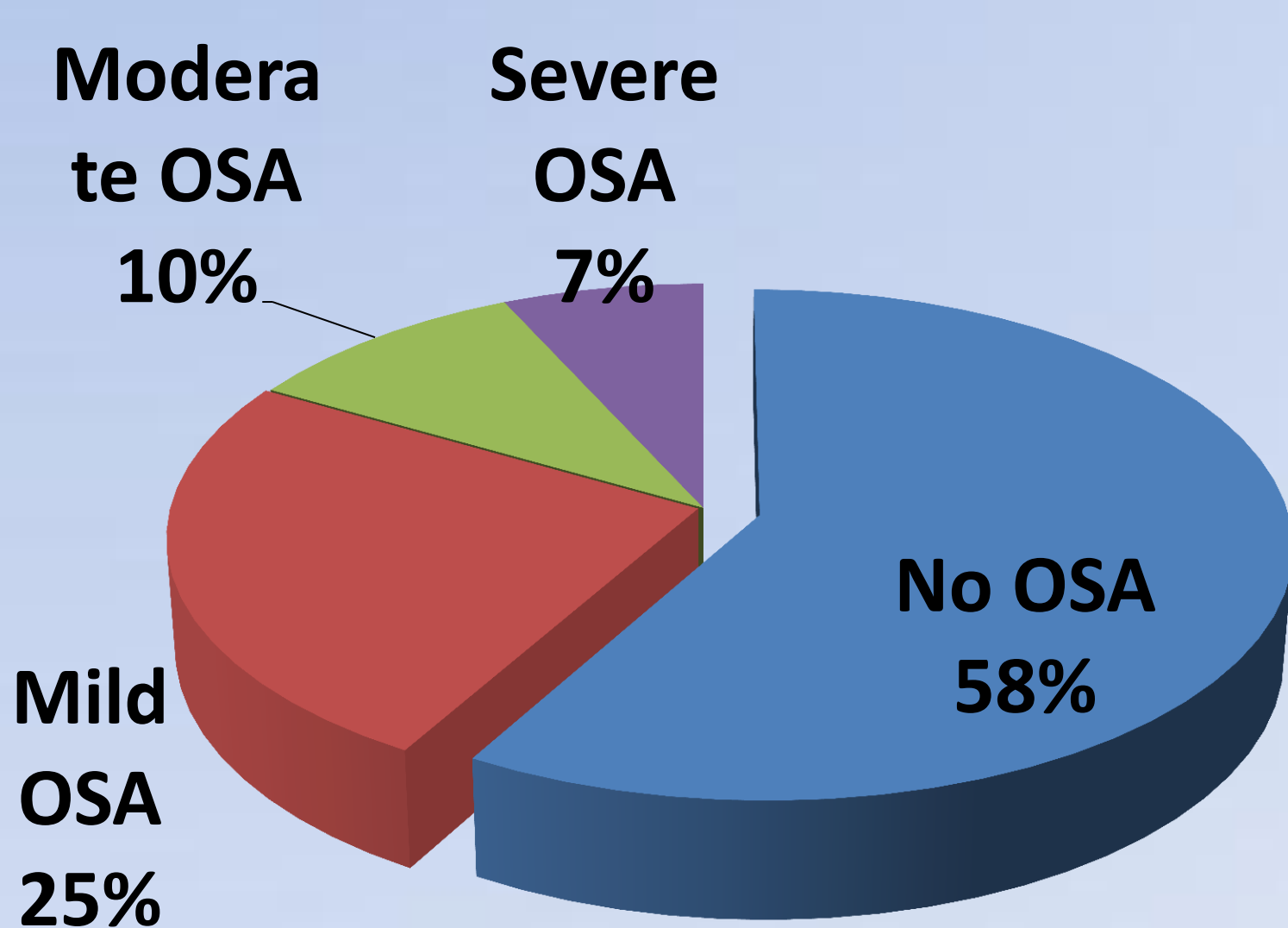


Fig.1 Distribution of 964 men CAD patients without OSA and with different severity of OSA

OSA evaluation:

Apnea hypopnea index (AHI) was determined by an overnight polysomnography.

OSA index was assessed according DSM-V recommendations:

- no OSA – AHI is 0-4/hour,
- mild OSA – AHI is 5-14/hour,
- moderate OSA – AHI is 15-29/hour ,
- severe OSA – AHI \geq 30/hour

Measures:

- **Demographic and clinical measures** (presented in table 1)

- **Psychometric measures:**

Hospital Anxiety and Depression scale (HADS)

Anxiety \geq 8 Depression \geq 8

Results

Four hundred two (41.7%) of coronary artery disease patients showed moderate to severe levels OSA.

In total 147 (15.2%) of participants were positive for anxiety symptoms. The highest rates of anxiety symptoms (26.3 %) were reported in patients with moderate OSA, as compared with patients without OSA and mild OSA (Fig. 1). However, no significant differences in HADS-anxiety scores between different OSA severity groups after adjustment for NYHA functional class, body mass index, age and diabetes mellitus have been found.

Depression symptoms were present in 276 (28.6%) of patients. No significant differences between prevalence of depression symptoms in different OSA severity groups have been found and ranged from 22.7% in severe OSA to 33.7% in moderate OSA. Mean scores on HADS-depression were significantly higher in moderate OSA patients as compared with non OSA patients (3.95 ± 2.97 vs 4.8 ± 3.36 , $p=.019$). However, no significant differences in HADS-depression scores between different OSA severity groups after adjustment for NYHA functional class, body mass index, age and diabetes mellitus have been found.

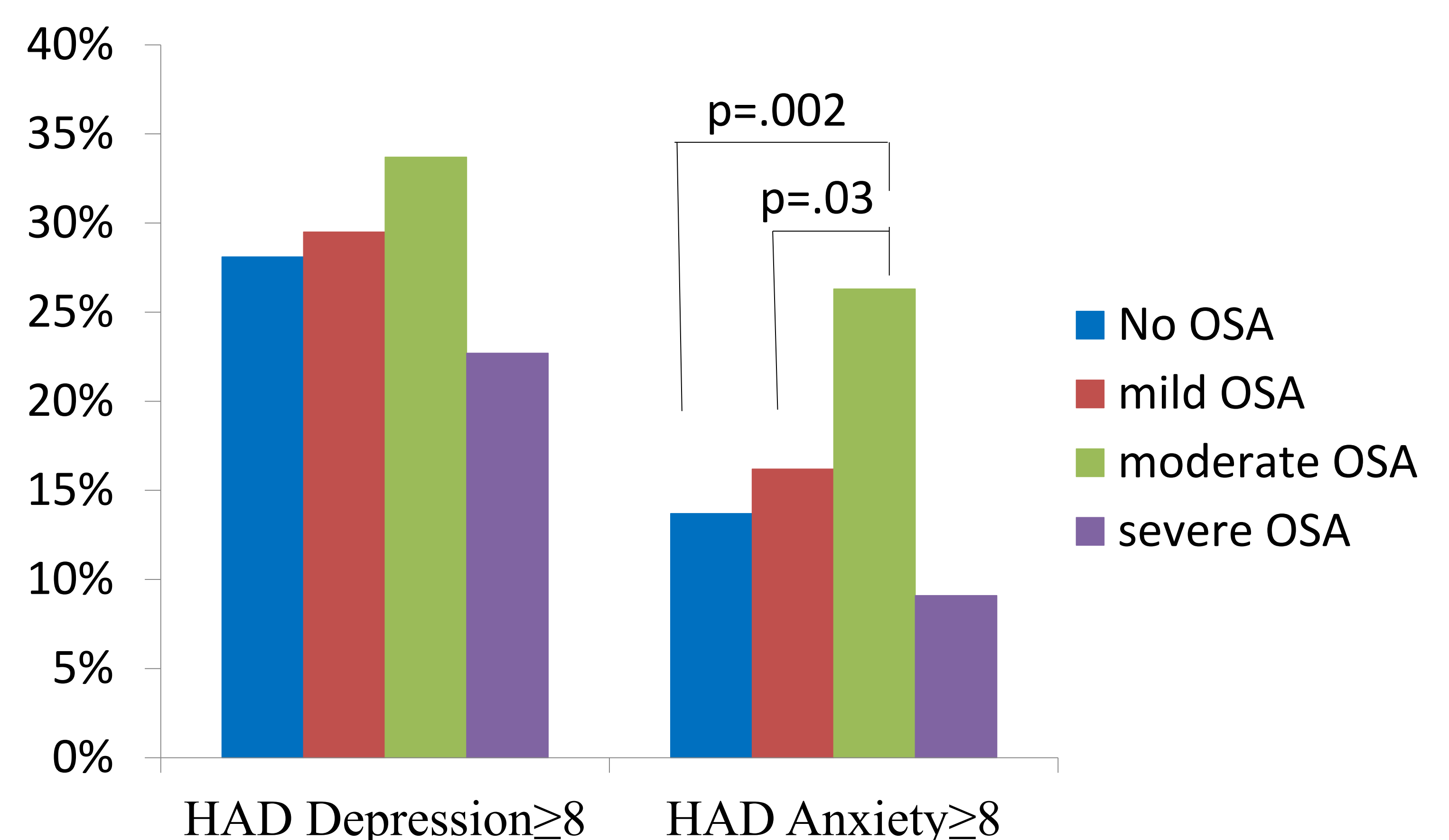


Fig.2 Prevalence of depression and anxiety symptoms in CAD male patients without OSA and with different severity of OSA

Table 1. Baseline characteristics of study patients

	No OSA, n=562	Mild OSA, n=241	Moderate OSA, n=95	Severe OSA, n=66	p
	Mean \pm SD, N (%)				
Age (years)	55.8 \pm 9.5	58.9 \pm 9.4	60.4 \pm 9.3	60.0 \pm 8.0	<.001
BMI	28.6 \pm 4.2	29.4 \pm 4.1	30.1 \pm 5.0	33.0 \pm 5.1	<.001
AH* Stage					
I ⁰	41 (7.3)	13 (5.4)	2 (2.1)	3 (4.5)	
II ⁰	248 (44.1)	113 (46.9)	36 (37.9)	36 (54.5)	.001
III ⁰	88 (15.7)	45 (18.7)	30 (31.6)	18 (27.3)	
NYHA class					
I	54 (9.7)	12 (5.0)	4 (4.2)	5 (7.6)	
II	433 (77.0)	192 (79.7)	67 (70.5)	44 (66.7)	.003
III	75 (13.3)	37 (15.4)	24 (25.3)	17 (25.8)	
History of DM**	36 (6.4)	20 (8.3)	12 (12.6)	14 (21.2)	<.001

*AH- Arterial Hypertension Stage

**DM- Diabetes Mellitus

Conclusions

In this cross-sectional study of men patients with coronary artery disease, no differences in symptoms of anxiety and depression have been found in different severity of OSA.

References

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