

Adherence to Positive Airway Pressure Therapy in a Cohort of Colombian Patients with Obstructive Sleep Apnea Syndrome

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Objectives

Obstructive sleep apnea syndrome (OSAS) is an important risk factor for several cardiovascular diseases including stroke and coronary heart disease. Positive air pressure (PAP) devices are part of the treatment for OSAS. We describe adherence to the use of PAP devices in a cohort of patients with OSAS in Colombia, and their hospitalization rates and cardiovascular comorbidities.

Materials and methods

Descriptive cross-sectional study of all adult patients (18 years-of-age or older) treated between January 2018 and December 2019 in the sleep clinic of a large private insurer in Colombia. Adherence was defined as the use of the device for 4 hours or more, at least 70% of nights in the month prior to the last visit to the sleep clinic, and was provided directly by the software included in each device.

Results

A total of 12,538 patients were included (51.3% women) with a mean age of 61.3 years; 10,220 patients (81.5%) used CPAP devices and 1,550 (12.4%) BIPAP. Only 4,602 (37.4%) classified as adherent, while 4,660 (37.8) did not use the device at all (0% adherence). Only one in six patients (17.5%) used the device in 90% or more in the previous month. Adherence rates were highest in the >65 years age groups, with no significant differences between males and females. 2,305 patients (18.5%) were hospitalized, on average 3.2 times; 515 of these (21.3%) had one or more cardiovascular comorbidities.

Table 1. Proportion of adherent patients (PAP used for more than 4 hours during 70% or more of the previous 30 nights) by age and gender.

Age (years)	Females (%)	Males (%)
18-24	5/28 (17.9%)	2/17 (11.8%)
25-29	57/49 (10.2%)	1/23 (4.3%)
30-34	28/130 (21.5%)	7/54 (13.0%)
35-39	74/320 (23.1%)	16/111 (14.4%)
40-44	115/426 (27.0%)	36/159 (22.6%)
45-49	145/468 (31.0%)	60/275 (21.8%)
50-54	264/764 (34.6%)	143/533 (26.8%)
55-59	359/942 (38.1%)	284/928 (30.6%)
60-64	384/995 (38.6%)	442/1142 (38.7%)
65-69	390/853 (45.7%)	432/1019 (42.4%)
70-74	297/662 (44.9%)	328/802 (40.9%)
75-79	180/430 (41.9%)	236/527 (44.8%)
>80	141/349 (40.4%)	213/502 (42.4%)
Overall	2387/6414 (37.2%)	2200/6092 (36.1%)

Figure: Age and gender of the patients in our sample

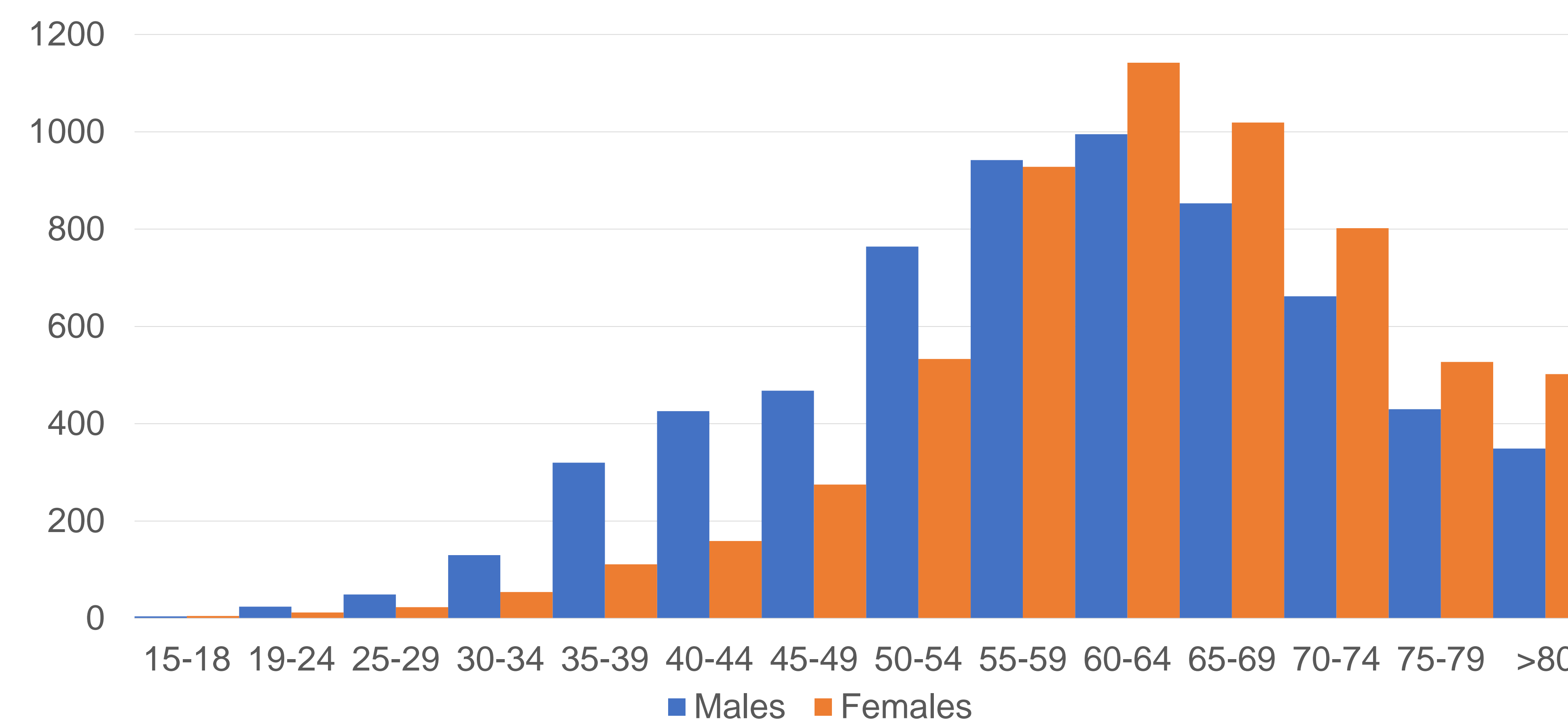


Table 2. Main cardiovascular causes for hospitalization

Diagnosis	Patients	Proportion
Coronary Heart Disease	543	34.3%
Arrhythmia	351	22.2%
Heart Failure	213	13.5%
Cerebrovascular Disease	121	7.7%
Other Arteriovenous Disorders	90	5.7%
Embolism	74	4.7%
Hypertensive Disease	67	4.2%
Aneurysm	43	2.7%
Peripheral Vascular Disease	38	2.4%
Valve Disease	33	2.1%
Inflammatory Heart Disease	8	0.5%
Overall	1,581	100%

Discussion

OSAS is a serious chronic disease with important consequences on health outcomes and quality of life. The first great unanswered question is the real magnitude of the problem. According to some estimates, worldwide there could be close to a billion affected adults, and some 80% of patients, at least in the United States, would be yet undiagnosed. A limitation of this study is the lack of information with regards to BMI; the age profile of our sample, however, does suggest a growing incidence, with the highest age group being those 60 to 69 years of age (32% of the sample, see **Table 1**).

Table 2 shows a relatively high number of cardiovascular conditions associated with OSAS in the patients in our sample. Our descriptive study does not allow us to do any causal inference, a common limitation when using administrative database (18). It does suggest, however, that the low adherence figures in the patients of our sleep clinic might be related with these outcomes.

Conclusion

Adherence rates in this sample are lower than those reported elsewhere. They are similar in males and females, and tend to improve with age. Interventions to improve adherence are essential in OSAS patients in Colombia.

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