

Determinants of mild sleep apnea treatment – Data from the Swedish Sleep Apnea Registry (SESAR)

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Introduction

Data on treatment strategies in mild obstructive sleep apnea (OSA) are sparse. Intraoral devices (IOD) are the first line therapy in mild OSA (AHI 5-15) according to guidelines and expert opinions but positive airway pressure (PAP) treatment may also be indicated in certain clinical conditions. However, best clinical practice is still unclear. **AIM:** To evaluate the predictors of PAP treatment compared to IOD treatment in mild OSA patients.

Methods

Data from 21 sleep centers were reported into the Swedish Sleep Apnea Registry (SESAR) (2014 -2017, n=17,989). Mild OSA was defined as Apnea Hypopnea Index (AHI) 5 - <15 events/hour. Treatment recommendations, if applicable, were recorded by the sleep physician at baseline. Logistic regression analysis (GLM Models) were applied to assess the independent predictors of PAP treatment in front of IOD.

Results

4,059 patients with mild OSA from 17 sleep centers were included in the analysis (table 1). The following treatment recommendations were recorded: **PAP** n=1,243 (31%), **IOD** n=1,387 (34%), **other treatment** (492 (12%, weight reduction, positional treatment, surgery), and **“no treatment”** n=937 (23%) (figure 1). Compared with IOD, the odds ratio for PAP treatment was increased by 20%, 156%, and 644% in overweight, obese or morbidly obese patients (p<0.001, respectively), and by -5%, 13%, and 136% in mild, moderate and severe Excessive Daytime Sleepiness (EDS) (Epworth Sleepiness Scale Score 8-10, 11-14, 15-24, respectively, p<0.001, figure 2). The likelihood of recommending PAP ahead of IOD treatment was increased by age (23% per 10 years, reference group 18-29 years, p<0.001) as did comorbidities like respiratory disease (+67%, p=0.0007), diabetes (+47%, p=0.014) and arterial hypertension (+30%, p=0.008).

Conclusions

In this large national cohort, PAP treatment is prescribed in almost one third of **mild OSA** patients, preferably older and overweighted patients with EDS, respiratory and cardio-metabolic comorbidities. Local reimbursement rules for IOD vary substantially and may influence the treatment recommendation.

Figure 1: Treatment decision in mild OSA

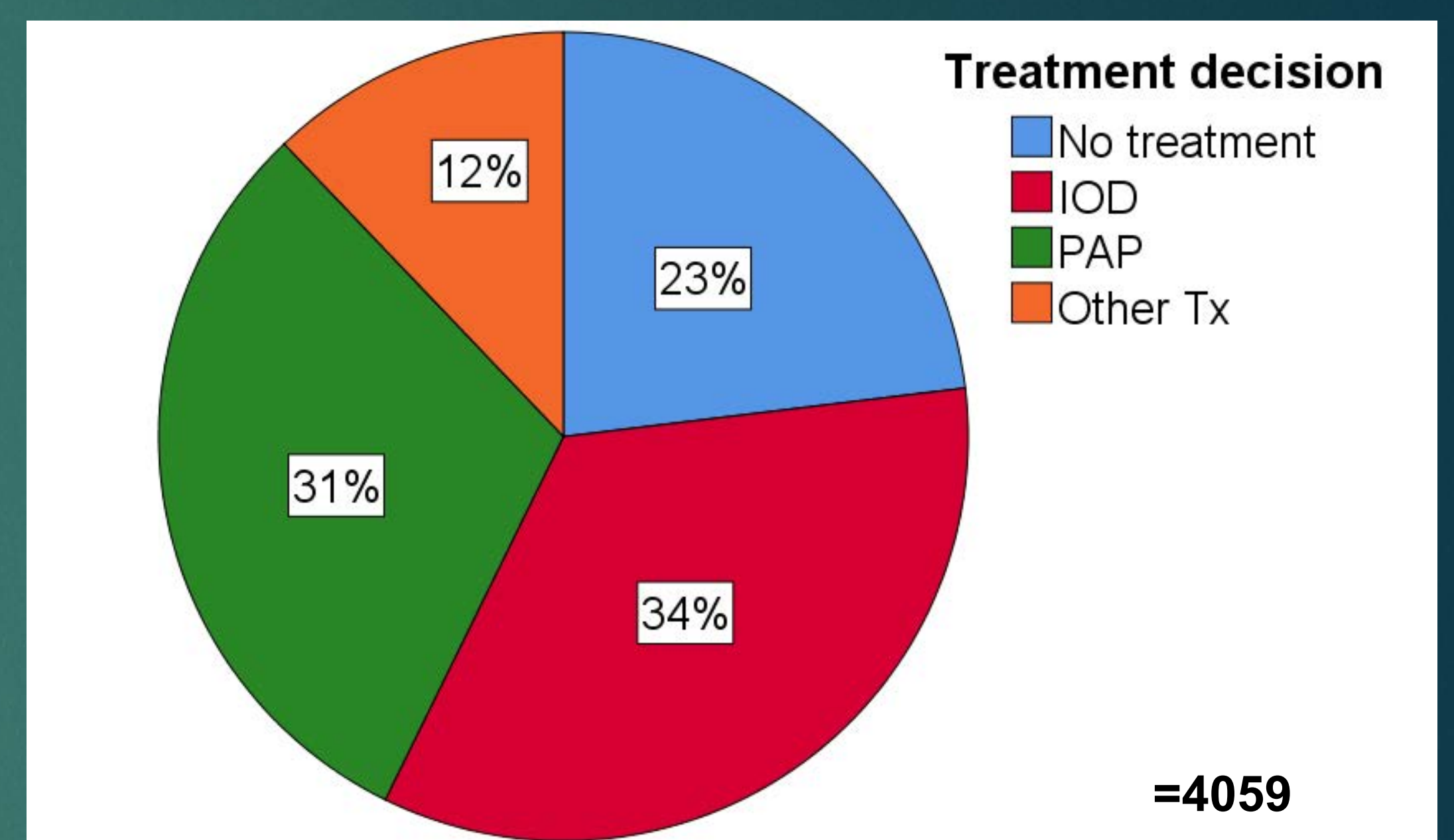


Figure 2: Percent increased likelihood for PAP versus IOD therapy in mild OSA (GLM analysis)

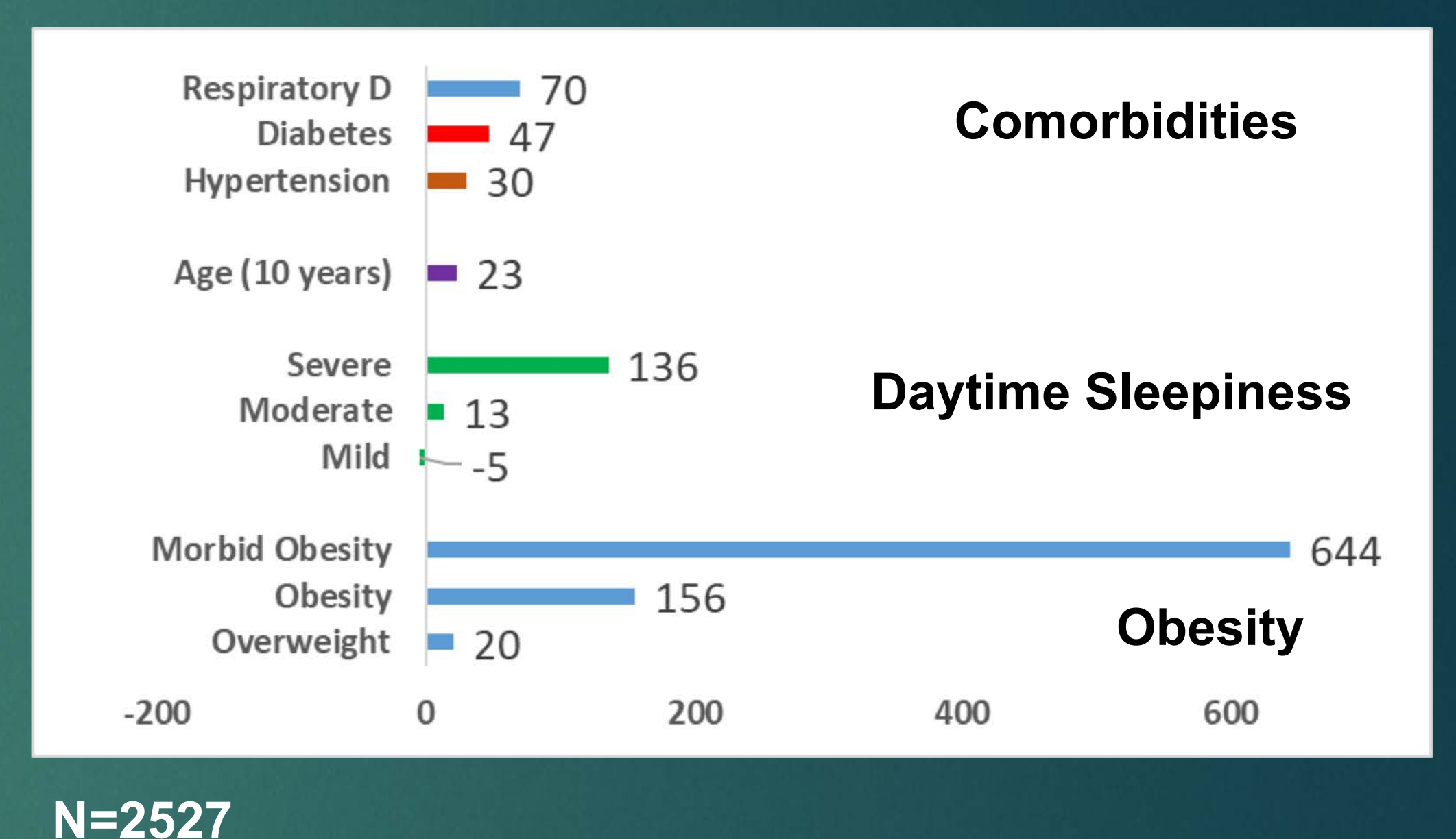


Table 1: Clinical data of patients with mild OSA

Parameter	Entire cohort (N=4059)	IOD (N=1387)	PAP (N=1243)	P-value PAP vs. IOD
Age (years)	53±14	53±13	55±13	<0.001
Male Gender	62%	65%	60%	0.014
Body Mass Index (kg/m ²)	29±6	27±6	30±6	<0.001
Apnea Hypopnea Index (AHI)	9.8±3	10.2±3	10.5±3	0.013
Oxygen Desaturation Index (ODI)	8.6±5	8.6±5	9.9±5	<0.001
Epworth Sleepiness Scale Score (ESS)	9.4±5	9.5±5	10.3±5	<0.001
Hypertension	33%	43%	57%	<0.001
Heart Failure	2%	1%	3%	<0.001
Ischemic Heart Disease	8%	6%	10%	<0.001
Diabetes	9%	6%	14%	<0.001
Respiratory Disease	6%	4%	7%	0.001
Depression	12%	11%	13%	0.09