



In minimally symptomatic OSA what is the best test to measure CPAP response?



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Ethics#: RecNo05/Q1604/159 Registration#: ISRCTN34164388

Introduction

The Epworth sleepiness score (ESS) is the most predictive measure of continuous positive airways pressure (CPAP) response in patients with obstructive sleep apnoea (OSA) with excessive daytime somnolence¹. Even in patients with minimally symptomatic OSA, where symptoms other than sleepiness are predominant, CPAP improves ESS².

We aimed to test if other measures of symptoms, in this minimally symptomatic group following CPAP, show greater sensitivity to symptom improvement than the ESS.

Methods

In the MOSAIC trial, patients were randomised to either 6 months of CPAP therapy or standard care.

- Patients had:
- An ODI >7.5 on original diagnostic study
 - Insufficient daytime symptoms to mandate CPAP.

The change from baseline to 6 months, relative to control, for the ESS and several questionnaires were compared .

Patients using CPAP on average >4 hours/ night (h/n) were analysed as a separate group.

Results

Baseline characteristics for all randomised patients are displayed in table 1 below. Baseline, 6 month and effect sizes are listed in table 2 for all outcomes.

Table 1: Baseline characteristics

	Standard Care (n=196)	CPAP (n=195)	CPAP >4h/n (n=67)
Mean age in years (SD)	57.6 (7.5)	57.9 (7.2)	57.4 (7.8)
Number male (%)	152 (77.6%)	153 (78.5%)	58 (86.6%)
Mean BMI kg/m ² (SD)	32.5 (5.6)	32.2 (5.6)	32.2 (5.4)
Median ODI events/hour (IQR)	9.4 (5.2, 15.0)	10.2 (4.7, 17.5)	15.8 (11.1, 29.4)

Discussion

The SAQLI improved the most with CPAP use, showing the largest effect size in the CPAP >4h/n analysis. The ESS, SF-36 Vitality and SF-36 MCS had medium effect sizes in the CPAP >4h/n analysis. There were also small but significant improvements in some of the measures with standard care.

These results suggest that in patients with minimally symptomatic OSA other symptoms may assume greater importance than sleepiness alone.

1.Sleep 2008;31:1551-8. 2.Thorax 2012;67:1090-6

	Standard Care Mean (SD) (n=196)		Effect size	p	NCPAP Mean (SD) (n=195)		Effect size	p	CPAP >4h/n (n=67)		Effect size	p
	Baseline	6 months			Baseline	6 months			Baseline	6 months		
ESS	7.9 (4.2)	8.2 (4.3)	0.07	0.20	7.9 (4.4)	6.3 (4.0)	-0.40*	<0.001	7.6 (4.3)	5.0 (3.6)	-0.60**	<0.001
SF-36 PCS	42.1 (12.5)	42.6 (12.8)	0.04	0.46	42.1 (12.3)	44.4 (12.0)	0.18	<0.01	41.2 (13.3)	45.0 (12.5)	0.30*	<0.01
SF-36 MCS	46.5 (11.4)	48.4 (11.3)	0.17	<0.01	48.1 (10.3)	51.8 (10.0)	0.34*	<0.001	48.5 (9.9)	54.6(7.9)	0.55**	<0.001
SF-36 Vitality	48.2 (23.1)	52.1 (22.2)	0.17	<0.01	50.2 (22.1)	61.4 (20.5)	0.48*	<0.001	49.5 (22.6)	66.1 (17.1)	0.73**	<0.001
SSAQLI	4.8 (1.2)	4.9 (1.3)	0.17	0.02	4.9 (1.1)	5.6 (1.0)	0.58**	<0.001	4.8 (1.2)	5.9 (0.9)	0.92 †	<0.001
EQ-5DI	0.75 (0.24)	0.78 (0.22)	0.19	0.04	0.80 (0.18)	0.82 (0.21)	0.10	0.15	0.79 (0.16)	0.82 (0.19)	0.17	0.21
OSLER (seconds)	1939 (716)	1895 (759)	-0.06	0.41	1954 (740)	2134 (545)	0.25*	<0.01	1936	2136	0.28*	0.05

Table 2: Effect sizes for each test. * Small (>0.2), ** medium (>0.5), † large (>0.8) effect sizes