Educational Video To Improve CPAP Use in Obstructive Sleep Apnoea Patients at Risk for Poor Adherence: A Randomised Controlled Trial

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Online supplement includes Methods of polysomnography and 2 Tables:

Supplementary Table 1. Outcomes based on randomisation to sleep physician phone call vs. non-sleep physician phone call after the split-night polysomnogram

Supplementary Table 2. Patient perception on the morning after undergoing split-night polysomnogram

METHODS

Polysomnography

Following educational intervention and questionnaire completion, patients underwent a split-night PSG as per routine clinical care. Sleep was recorded for approximately 8 hours by standard polysomnography (Nihon Kohden, Foothill Ranch, CA) that included recordings of six electroencephalographic channels, bilateral electro-oculograms, chin and tibialis electromyogram, electrocardiogram, airflow by nasal pressure transducer and oronasal thermocouples, chest and abdominal respiratory inductance plethysmography, and oxygen saturation by finger pulse oximeter. All PSGs were staged and scored according to the American Academy of Sleep Medicine (AASM) Manual for the Scoring of Sleep and Related Events.[1, 2] Apnoeas were defined as total cessations of airflow or a drop in the peak signal excursion by ≥ 90% of pre-event baseline using an oronasal thermistor for at least 10 seconds (obstructive if respiratory effort was present and central if respiratory effort was absent). Hypopnoeas were identified when the magnitude of the ventilation signal decreased by at least 30% of the baseline amplitude of the nasal pressure transducer for at least 10 seconds and were associated with either a 3% or greater drop in oxygen saturation measured by pulse oximetry, or an electroencephalographic microarousal.[2] The apnoea-hypopnoea index (AHI) was defined as the number of apnoeas and hypopnoeas per hour of sleep from the diagnostic portion of the PSG. Oxygen desaturation indices (ODI) were calculated as the total number of ≥3% and number of ≥4% desaturations per hour of sleep from the diagnostic portion of the PSG. Microarousal index was calculated as the total number of microarousals per hour of sleep from the diagnostic portion of the PSG. In our laboratory the sleep technologists are instructed to start CPAP titration if they estimate the AHI to be in the moderate to severe range (AHI ≥15) after approximately 2-3 hours of recording. CPAP titration was performed manually by a trained sleep technologist according to established guidelines.[3]

REFERENCES

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3. Kushida CA, Chediak A, Berry RB, Brown LK, Gozal D, Iber C, Parthasarathy S, Quan SF, Rowley JA. Clinical guidelines for the manual titration of positive airway pressure in patients with obstructive sleep apnea. *J Clin Sleep Med.* 2008;4(2):157-171.

Supplementary Table 1. Outcomes based on randomisation to sleep physician phone call vs. non-sleep physician phone call after the split-night polysomnogram

Outcomes	Video Education plus sleep physician phone call (n=51)	Video Education plus non-physician phone call (n=48)	Usual care plus sleep physician phone call (n=62)	Usual care plus non-physician phone call (n=51)	P value
Mean daily CPAP use during the first 30 days, h/night	3.4 (2.7-4.2)	3.2 (2.4-3.9)	3.4 (2.9-3.9)	3.8 (3.2-4.4)	0.64
Mean daily CPAP use during the 30 days after sleep clinic appointment date, h/night	2.8 (2.0-3.6)	3.1 (2.3-3.9)	3.1 (2.4-3.8)	3.8 (3.0-4.5)	0.34
Percent showing up to sleep clinic visit	55%	52%	61%	57%	0.80

Data reported as mean (95% CI) or percentages

CPAP: Continuous positive airway pressure

Supplementary Table 2. Patient perception on the morning after undergoing split-night polysomnogram

Patient perceptions	Video Education (n=99)	Usual Care (n=113)	P value
Was CPAP easy to use			
Agree or strongly agree, n (%)	67 (67.7)	76 (67.2)	0.20
Was CPAP pressure comfortable			
Agree or strongly agree, n (%)	68 (68.6)	66 (58.4)	0.50
I plan to use CPAP almost every night			
Agree or strongly agree, n (%)	83 (83.8)	92 (81.5)	0.71
CPAP is good for my health			
Agree or strongly agree, n (%)	88 (88.9)	106 (93.8)	0.08
I plan on keeping the appointment with the sleep clinic			
Agree or strongly agree, n (%)	92 (92.9)	106 (93.8)	0.35
If I use CPAP regularly my sleep apnea will be successfully controlled			
Agree or strongly agree, n (%)	88 (87.9)	96 (85.0)	0.22

CPAP: Continuous positive airway pressure