



Title	Diagnosis and Treatment of Obstructive Sleep Apnea – A Health Technology Assessment
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Aim

To examine the documentation for diagnosing and treating obstructive sleep apnea (OSA); and to evaluate the organizational and economic consequences of different, mainly diagnostic, strategies.

Conclusions and results

The best documented treatment is continuous positive airway pressure (CPAP). Auto-adjusted CPAP is as effective as fixed pressure CPAP. Auto-adjusted CPAP may involve some advantages compared to fixed pressure CPAP: manual titration is eliminated and followup adjustments and controls are probably reduced. CPAP treatments in patients with obstructive sleep apnea increase quality of life and reduce morbidity. Treatment is cost effective due to the reduction in morbidity. Organizational analysis showed that polysomnography (PSG) supervised in hospital was the most expensive method. The costs for ambulatory respiratory polygraphy and oximetry were similar. Seen from a patient-ethical point of view, ambulatory partial polygraphy and auto-adjusted CPAP are preferable in diagnosing and treating uncomplicated obstructive sleep apnea. A health-related economic analysis indicates that diagnosing and CPAP treatment of obstructive sleep apnea is cost effective, even if only morbidity data are included.

Recommendations

It is important to focus on the quality of submissions, visitation, and other evaluation of patients with obstructive sleep apnea. CPAP is a chronic treatment, and relevant organization of followup should be present. A significant proportion of patients with obstructive sleep apnea present major comorbidities, eg, neurological, cardiac, or pulmonary diseases, or suffer from other sleep-related breathing disorders. Patients with other sleep disorders like narcolepsy, motor or behavior disorders during sleep, or nocturnal seizures may share some symptoms similar to sleep apnea. These patients need more extensive evaluation in fully accredited sleep laboratories with extensive diagnostic and treatment procedures, presence

of relevant neurological and medical specialties with relevant education of medical and nonmedical staff. From an organizational perspective, a limited number of such high-level clinics should be established in hospitals with relevant specialties and co-diagnostic resources.

Methods

The HTA includes a systematic review of the literature and different studies including: 1) a controlled study of the difference between fixed-pressure CPAP and auto-adjusted CPAP, 2) a study of the influence of CPAP on quality of life, 3) a study of morbidity before and after CPAP treatment, and 4) a questionnaire study of the diagnosis and treatment of obstructive sleep apnea in Denmark involving all relevant clinics and hospitals. Also, a health economic analysis of diagnosis and treatment was performed.

Further research/reviews required

Future health-related economic analysis should include social, professional, and traffic aspects.