Boerhaave Medical Center, Amsterdam, Netherlands; [2] *Pulmonology Department, Democritus University of Thrace, Aleksandroupoli, Greece;* [3] *Pulmonology Department, General Hospital Evangelismos of Athens, Greece;* [4] *Department of Neurology, Resident, Athens Naval Hospital, Athens, Greece;* [5] *Pulmonary Department, University of Thessaly, Larissa, Greece*

Introduction: Patients with Obstructive Sleep Apnea-Hypopnea Syndrome (OSAHS), may have cognitive impairment, which usually underdiagnosed, negatively affecting their daily activities. The aim of this study was to assess the subjective perception of cognitive functioning of patients who suffer from OSA prior to treatment with CPAP employing the Maastricht Attention and Memory Checklist (MAC).
Materials and methods: The study population included 101 patients with OSAHS, diagnosed with polysomnography, who visited the outpatient Sleep Clinic of the University General Hospital of Larissa and General Hospital "Evangelismos" of Athens vs. 40 normal controls of the general population. All participants underwent a neuropsychological evaluation, including the MAC scale. Principal Component Analysis with Varimax Rotation was subsequently used to determine the existence of latent structures within the MAC.
Results: The majority of patients were males (52.5%), between the ages of 51-71 years (52.4%), secondary school graduates (53.5%). PCA revealed 5 distinct dimensions capturing 74,17% of the sample's variance.. These dimensions corresponded to distinct deficits in attention-deficit, focused attention and concentration.
Conclusions: Our results indicate that cognitive deficits in OSAS may be sequestered in endophenotypes corresponding to attention-deficit, focused attention and concentration. An expansion of our work in other neuropsychological measures is thus warranted.
Acknowledgements: We thank all the patients that they particiapted in this study.

Sleep Breathing Disorders

APNEA BYE, FIRST APP TO TREAT SLEEP DISORDER BREATHING

C. O'Connor Reina [1], M.T. Garcia Iriarte [2], J.C. Casado Morente [1], G. Plaza Mayor [3], P. Baptista Jardin [4], E.A. Vicente Gonzalez [5]. [1] *Servicio de Otorrinolaringologia, Hospital idc Quiron Salud Marbella y Campo de Gibraltar, Marbella y Palmones, Spain;* [2] *Servicio de Otorrinolaringologia, Hospital La Merced de Osuna, Osuna, Spain;* [3] *Servicio de Otorrinolaringologia, Hospital Sanitas la Zarzuela y Fuenlabrada, Madrid, Spain;* [4] *Servicio de Otorrinolaringologia, Clinica Universitaria de Navarra, Pamplona, Spain;* [5] *Servicio de Otorrinolaringologia, Hospital Universitario Miguel Servet, Zaragoza, Spain*

Introduction: Apnea Bye is the first app to treat sleep apnea and snoring. Apnea Bye is based on myofunctional therapy. Patient interacts with the Phone performing oropharyngeal exercises. The main advantage for this app is that provide feedback with the patient about the accuracy of the exercises, and the doctor is aware about the adherence of this exercises.
This therapy is based on three elements:
1) A comprehensive web page for patients with general information about the app. where they can unload it by them shelves.
2) There is another private web page for doctors who recommend the app to their patients and where medical information, accuracy and adherence in performing the exercises are recorded. Doctors are aware about their patients.
3) And the app where 11 exercises using oropharynx muscles involved in the origin in the apnea are pulled interacting with the phone and using its screen during half an hour in a day. All the exercises are recorded, and its efficiency during the procedure is informed to the patient.
At this moment only iphon 6S and 7 had the accurate technology to control the pressure of this muscles again the screen.
Material and methods: Prospective study , starting March 2017. Patients snorers diagnosed with apnea IAH< 30, During the otolaryngology examination showed mainly oropharyngeal causes of the blockage. No prior surgery, no morbidity obesity, no severe temporomandibular joint dysfunction. All patients demonstrated willingness to perform exercises. Consent report were obtained from all patients. In case of patients younger than 18 years, it was obtained from their parents. IAh with prior polysomnography, BMI, snoring VAS, and sat p02 were recorded pre and postintervention.
Results: Until now five patients have tested this therapy. The average Age was 35,5, 4 men one women.
Average scores Pre therapy were IAH 25,5, BMI 24,1, VAS 9,1, SAT O2 PRE 90.2
Aveage scores After three months of using the app were, IAH 19,2, P =0.08 VAS 4,2, P 0.0015 , BMI 22,7 p=0.42 SATP O2 Post 95,2. P=0.02.
Understanding adherence on performing exercises half on an hour during 5 days of a week, the adherence was 100% in the five patients.
No complications were reported.
Conclusions: Although this is a small sample we understand this is a promising therapy for sleep disorders breathing. Further studies will be carried out with more patients.

Sleep Breathing Disorders

THE RELIABILITY OF THE EPWORTH SLEEPINESS SCORE IN A SLEEP CLINIC POPULATION

E. Taylor [1], I. Zeng [2], C. O'Dochartaigh [1]. [1] *Respiratory Medicine, Counties Manukau District Health Board, New Zealand;* [2] *Health Intelligence and Informatics, Counties Manukau Health, Auckland, New Zealand*

Rationale: Despite the Epworth Sleepiness Score (ESS) being widely used in the assessment of OSAS (Obstructive Sleep Apnea Syndrome), there are limited studies of its reliability in clinical practice. The aim of this study was to assess the reliability of the ESS in a clinical population undergoing assessment for OSAS.
Methods: This retrospective study included 133 patients who were referred to Middlemore Hospital sleep service on suspicion of OSAS between October and November 2014. The reliability of repeated measurements of ESS at up to three different points of the diagnostic pathway was measured: at the general practitioner's (GP) assessment, at the time of overnight oximetry and at assessment by a Sleep Physician. No treatment for OSAS was administered between measurements. Reliability was analysed using the Bland Altman method and Intraclass and Pearson correlation coefficients.
Results: There were 133 patients included in the study. The GP ESS were taken first. There was median 91 days until ESS was measured again at time of oximetry, then median 11 days until a final ESS was measured at specialist assessment. The results suggest good reliability of the ESS between the oximetry and specialist scores with an Intra Class Correlation coefficient (ICC) of 0.82, however poor reliability between the GP and oximetry or specialist scores with ICC of 0.34 and 0.31 respectively.
Conclusion: The reliability of the ESS is unproven in clinical settings. Our study shows that in this population there is significant variation in the score over repeated baseline measures. This may be interpreted as an effect of passage of time (oximetry and specialist clinic measurements being significantly closer together than GP and oximetry/specialist clinic measurements), or of the different clinical settings in which the score was measured. Clinicians should be aware of the limitations of ESS in clinical practice.

Narcolepsy

INCORPORATING PATIENT INPUT INTO CLINICAL TRIALS

S. O'Daly [1], S. Dowd [1], N. Cassidy [1], D. Monteith [1], T. Roth [2]. [1] *Flamel Ireland/Avadel Ireland, Dublin, Ireland;* [2] *Sleep Disorders Center, Henry Ford Hospital, Detroit, United States*

Introduction: Flamel Ireland/Avadel Ireland is currently recruiting patients for a Phase III clinical trial, "The REST-ON Study"—evaluating the safety and efficacy of Once Nightly formulation of sodium oxybate.
Patient engagement in clinical development is in its infancy. Flamel Ireland/Avadel Ireland is committed to utilizing patient feedback in the development of study activities.
Materials and methods: Following an initial consultation with the Narcolepsy Network USA, Flamel Ireland/Avadel Ireland has established a REST-ON Patient Advisory Group (PAG). The established group is