

**THE ASSOCIATION BETWEEN OBSTRUCTIVE SLEEP
APNEA SYNDROME AND EPILEPSY:
THE PREVALENCE AND CLINICAL PREDICTORS OF
SLEEPINESS**

BY

DR. MUHAMAD YUSRI MUSA

**Dissertation Submitted In Partial Fulfillment of the
Requirements for the Degree of Master of Medicine
(Otorhinolaryngology- Head and Neck Surgery)**



UNIVERSITI SAINS MALAYSIA

**UNIVERSITI SAINS MALAYSIA
2010**

ACKNOWLEDGEMENTS

First and foremost, special praise and prayers to the Almighty God, for blessing me with my beloved wife, children and parents. Their invaluable love, support and understandings had inspired me to keep on going during the difficult times of my life. Without them all of this would not have been worthwhile.

I would like to express my utmost gratitude to the following persons who have contributed to the successful completion of this study.

- My supervisor, Assoc. Prof. Dr. Baharudin Abdullah
- My co-supervisors, Assoc. Prof. Dr. Suzina Sheikh Abd. Hamid (ORL-HNS and Assoc. Prof. Dr. John Tharakan (Neuromedical)
- Assoc Prof. Dr. Rosdan Salim, the Head, Dept. of ORL- HNS
- My Research Assistant, Mr. Mohd Helmi and Co-researcher, Ms Nor Hajah
- Sleep Lab Technologists- Mr. Yusman
- Dr. Ch'ng and Dr. Wan Zahirrudin for helping in statistical analysis
- All ORL and Epilepsy clinic staffs
- All patients who had volunteered for this study
- Prof. Dr. Dinsuhaimi and Prof Shahid Hassan for their endless motivation and advice
- Last but not least, all my teachers, past and present

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LIST OF ABBREVIATIONS

AHI	Apnea- Hypopnea Index
AI	Apnea Index
AASM	American Society of Sleep Medicine
BMI	Body Mass Index
CAPSO	Cautery Assisted Palatal Stiffening Operation
CI	Confidence Interval
CPAP	Continuous Positive Airway Pressure
CPS	Complex Partial Seizures
DNS	Deviated Nasal Septum
ECG	Electrocardiography
EEG	Electroencephalography
EMG	Electromyography
EOG	Electrooculography
ESS	Epworth Sleepiness Scale
FNLPS	Flexible -Naso- Pharyngo-laryngoscopy
HUSM	Hospital Universiti Sains Malaysia
ILAE	International League Against Epilepsy
ITH	Inferior Turbinate Hypertrophy
ORL-HNS	Otorhinolaryngology- Head and Neck Surgery
OSA	Obstructive Sleep Apnea
OSAS	Obstructive Sleep Apnea Syndrome

PSG	Polysomnography
REM	Rapid Eye Movement
RTA	Road Traffic Accident
RDI	Respiratory Disturbance Index
RERA	Respiratory Effort- Related Arousal
SD	Standard Deviation
UPPP	Uvulo- Palato- Pharyngo- Plasty
HUSM	Hospital Universiti Sains Malaysia

ABSTRAK

PENGENALAN

Sindrom 'Obstructive Sleep Apnea' (OSAS) dan epilepsi mempunyai hubung kait dengan masalah aktiviti pada otak dan kerap kali wujud bersama-sama antara satu sama lain. Kajian terdahulu menunjukkan bahawa secara umumnya pesakit epilepsi lebih mengantuk dan kurang aktif berbanding dengan populasi umum.

OBJEKTIF

Objektif kajian secara umum ialah untuk mengkaji hubungan antara penyakit epilepsi dan OSAS. Kadar prevalens dan faktor- faktor risiko yang boleh mengaitkan rasa mengantuk dengan OSAS adalah objektif yang dikaji secara spesifik.

KAEDAH KAJIAN

Kajian ini dijalankan secara diskriptif keratan rentas terhadap pesakit yang telah di diagnosa dan dirawat di klinik epilepsi, HUSM. Kajian dilakukan bermula daripada November 2008 hingga bulan April 2010.

METODOLOGI

Pesakit epilepsi yang memenuhi kriteria kajian dan memberikan keizinan akan disoal-selidik menggunakan skala mengantuk epworth yang telah diterjemah ke bahasa melayu. Soal-selidik juga melibatkan data demografi, gejala OSAS dan faktor-faktor risiko yang berkaitan. Pemeriksaan telinga, hidung dan tekak dilakukan secara menyeluruh dan diikuti dengan ujian polisomnografi (PSG) di makmal beradu HUSM.

KEPUTUSAN

Sebanyak lima daripada 60 pesakit dikesan mengidap OSA dan empat daripada mereka adalah lelaki. OSA adalah ringan pada seorang pesakit, sederhana pada dua pesakit dan teruk pada selebihnya. Umur, ukur lilit leher, skala ESS dan BMI didapati berhubungkait secara signifikan dengan OSA (P value < 0.05). Manakala faktor-faktor risiko yang berkaitan dengan penyakit epilepsi (seperti jenis sawan, jangkitan masa penyakit dan ubatan anti-epilepsi) tidak memiliki perkaitan dengan OSA.

RUMUSAN

Prevalens untuk OSA dikalangan epilepsi ialah 8.3%. Penggunaan skala ESS dalam versi Melayu adalah sesuai dan berkesan sebagai saringan untuk mengesan OSAS. Faktor-faktor risiko yang berkait untuk mengesan OSAS ialah umur, ukur lilit leher, Skala ESS dan BMI. Peranan ujian PSG pada masa hadapan sebagai sebahagian kaedah untuk mengesan OSA dikalangan pengidap epilepsi yang berisiko tinggi adalah sangat digalakkan.

ABSTRACT

INTRODUCTION

Epilepsy and Obstructive Sleep Apnea Syndrome (OSAS) are both associated with abnormal brain activity and frequently coexist. Epilepsy patients were found to be drowsier when compared with general population using the Epworth Sleepiness Scale.

OBJECTIVE

The aim is to study obstructive sleep apnea syndrome (OSAS) in epilepsy patients, as well as the prevalence of obstructive sleep apnea and the predictors of sleepiness among epileptics.

STUDY DESIGN

This was a prospective cross sectional study in HUSM on patients already diagnosed and treated with epilepsy. The study was conducted from November 2008 to April 2010.

METHODOLOGY

The consented participants who fulfilled the criterias were interviewed using questionnaire regarding demographic data, symptoms of obstructive sleep apnea and Epworth Sleepiness Scale, followed by full ear, nose and throat examination and overnight polysomnography (PSG).

RESULTS

Five of sixty participants (8.3%) were diagnosed with OSA and four of them were males. OSA was mild in one patient, moderate in two patients and severe in the other two. Age, neck circumference, ESS score and BMI were significantly associated with OSA (p value

<0.05). Epilepsy-related risks (type of seizures, duration and type of AED) have no significant association with OSA.

CONCLUSIONS

The prevalence of OSA among epilepsy patients is 8.3%. The use of Malay version of ESS scale is appropriate and effective in screening patients for OSAS. Future role of PSG as part of assessment in high risks epileptics is recommended.