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شبكة المعلومات الجامعية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



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شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



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جامعة عين شمس

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بالرسالة صفحات لم ترد بالأصل





STUDY OF SLEEP PATTERNS IN CHILDREN WITH BRONCHIAL ASTHMA

Thesis

*Submitted for Partial Fulfillment of MD
Degree in Pediatrics*

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قالوا

لسبب انك لا تعلم لنا
إلا ما علمتنا إنك أنت
العليم العظيم

صدق الله العظيم

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ABSTRACT

Background: Asthma is the most common chronic illness of childhood that progressively increased in prevalence and severity. Asthma seems to be a risk factor for disturbed sleep as asthma symptoms often worsen at night.

Objective: to assess sleep behavior in children with bronchial asthma and to assess to what extent sleep quality is affected by the severity and level of control of bronchial asthma.

Method: This case control study included 85 children aged 6-18 years; 60 of them had bronchial asthma and 25 age and sex matched healthy children as a control group. The studied asthmatic children were categorized into 3 groups: 20 had mild persistent asthma, 20 had moderate persistent asthma, and 20 had severe persistent asthma. They were recruited during the period from April 2015 to July 2017. They were subjected to full history taking, pulmonary function tests, children sleep habit questionnaire (CSHQ) and polysomnography.

Results: This study demonstrated significant impairment of sleep quality in asthmatic children that was correlated with asthma severity and level of control. Children with asthma had significant lower scores of CSHQ than healthy control group. Regarding polysomnography, children with asthma had significant decrease in sleep efficiency, duration of deep sleep and significant increase in arousal index, respiratory disruption index, sleep latency and end tidal CO₂ than control group. Conclusion: The findings of this study suggest significant association between bronchial asthma and sleep disturbances. In addition, there is significant correlation between asthma severity, impaired pulmonary function tests, level of control and sleep quality. Therefore, appropriate evaluation and treatment of sleep quality are needed for asthmatic children to improve their quality of life.

Keywords: Childhood asthma, Sleep, CSHQ, Polysomnography

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List of Abbreviations

Abb.	Full term
AASM.....	American Academy of Sleep Medicine
ACTH.....	Adrenocorticotropin
ADHD	Attention deficit hyperactivity disorder
AHR	Airway hyperresponsiveness
APC.....	Antigen-presenting cell
ARAS	Ascending Reticular Activating System
ASPS.....	Advanced sleep phase syndrome
BD	Bronchodilator
BF	Basal Forebrain
BHR	Bronchial hyperresponsiveness
BMI.....	Body mass index
CBF.....	Cerebral blood flow
CCL.....	Chemokine ligand
CNS.....	Central nervous system
COPD.....	Chronic obstructive pulmonary disease
CPAP	Continuous positive air way pressure
CRP.....	C-reactive protein
CSHQ.....	Children Sleep Habits Questionnaire
CXCL	Chemokine CXC ligand
CysLT1	Cysteinyl leukotriene type 1
DA.....	Dopamine
DC.....	Dendritic cell
DRN	Dorsal Raphe Nucleus
DSM	The Diagnostic and Statistical Manual of Mental Disorders
DSPD	Delayed sleep phase disorder
DSPS.....	Delayed sleep phase syndrome
ECG	Electrocardiogram
ECM.....	Extracellular matrix

List of Abbreviations Cont...

Abb.	Full term
EDS.....	Excessive daytime sleepiness
EEG	Electroencephalography
EGF.....	Epithelial cell growth factor;
EMG.....	Electromyogram
EMTU	Epithelial-mesenchymal trophic unit
EOG	Electro-oculography
ETS	Environmental tobacco smoke
FDA.....	Food and Drug Administration
FEF 25%-75%.....	Forced expiratory flow at 25%-75%
FEF	Forced expiratory flow
FENO.....	Fractional exhaled nitric oxide
FEV1.....	Forced expiratory volume in 1 second
FGF.....	Fibroblast growth factor
FRC.....	Functional residual capacity
FVC.....	Forced vital capacity
FVC.....	Forced vital capacity
GABA.....	γ amino butyric acid
GERD.....	Gastro-esophageal reflux disease
GH.....	Growth hormone
GINA.....	Global Initiative for Asthma
GM-CSF.....	Granulocyte-macrophage colony-stimulating factor
GOS.....	Galactooligosaccharide
HcrT.....	Hypocretin
ICS	Inhaled corticosteroids
IgG1	Immunoglobulin G1
IL.....	Interleukin
INF- γ	Interferon- γ
LABA	Long -acting β 2-agonist

List of Abbreviations Cont...

Abb.	Full term
LC	Locus Ceruleus
LH.....	Lateral hypothalamus
LTRA	Leukotriene receptor antagonist
MSLT	Multiple sleep latency test
NANC	Nonadrenergic noncholinergic
NE	Norepinephrine
NK-A.....	Neurokinin A
NK-B.....	Neurokinin B
NREM.....	Non rapid eye movement
OA.....	Occupational asthma
OCS.....	Oral corticosteroids
OSAS	Obstructive sleep apnea syndrome
OX.....	Orexin
PBMCs.....	Peripheral blood mononuclear cells
PEF	Peak expiratory flow
PEFR	Peak expiratory flow rate
PFTS.....	Pulmonary function tests
PGD2	ProstaglandinD2;
PLM	Periodic limb movement;
PLMD	Periodic limb movement disorder
PSG.....	Polysomnogram;
REM.....	Rapid eye movement
RLS	Restless leg syndrome
RSV	Respiratory syncytial virus
SABA	Short-acting β 2-agonist
SCF	Stem cellfactor
SCN.....	Supra-chiasmaticnucleus
SDB.....	Sleep disordered breathing
sIgE.....	Serum immunoglobulin E

List of Abbreviations Cont...

Abb.	Full term
SPC	Summary of product characteristics
SPT	Skin prick test
SWA	Slow-wave activity
SWS	Slow-wave sleep
TGF-b.....	Transforming growth factor b
TH1	T helper 1
Th2.....	T-helper 2 lymphocyte
TMN	Tuberomammillary Nucleus
TNF- α	Tumor necrosis factor-alpha
TSLP	Thymic stromal lymphopietin
VC	Vital capacity
VEGF	Vascular endothelial growth factor
VTA.....	Ventral Tegmental Area

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