SLEEP CHARACTERISTICS AMONG OVERWEIGHT AND OBESE SCHOOL-AGED CHILDREN

Thesis
Submitted for partial fulfillment of
Master Degree in Pediatrics

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M.B.B.CH. - Ain Shams University
(2008)

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2015


بسم الله الرحمن الرحيم
إقرأ بإسم ربك الذي خلق (1)
خلق الإنسان من علق (2)
اقرأ و ربك الأكرم (3)
الذي علم بالقلم (4)
علم الإنسان مالم يعلم (5)
صدق الله العظيم
سورة العلق

First of all, thanks to **Allah** *the most merciful for giving me the strength to complete this work.*

I would like to express my gratefulness and respect to **Prof. Dr. Hamed Ahmed El Khayat** *"Professor of Pediatrics, Faculty of Medicine, Ain Shams University" for his moral and sincere support and for his kind observation and valuable advice that were essential for this work to be achieved.*

I would also like to express my thanks and gratitude to **Dr. Marwa Talaat El Deeb** *"Assistant Professor of Pediatrics, Faculty of Medicine, Ain Shams University" for her priceless help and his kind supervision.*

I would also like to express my gratitude and respect to **Dr. Mahmoud Mamdouh El Habiby** *"Lecturer of Psychiatry, Faculty of Medicine, Ain Shams University" for his valuable time, remarkable efforts, help and guidance.*

Finally I wish to express my deepest gratitude and appreciation to all of my ***Family*** *for their moral support, patience and encouragement.*

Amira Mourad

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LIST OF ABBREVIATIONS

Abbrev.	Full term
ACTH	Adrenocorticotrophic hormone
ADHD	Attention deficit/hyperactivity disorder
ADP	Air displacement plethysmography
AFGF	Acidic fibroblast growth factor
AMA	American Medical Association
ANS	Autonomic nervous system
ATP	Adenosine triphosphate
BBB	Blood brain barrier
BDNF	Brain derived neurotropic factor
BF	Basal forebrain
BIA	Bioelectrical impedance analysis
BMI	Body mass index
CDC	Centers for Disease Control and Prevention
CKD	Chronic kidney disease
Cps	Cycles per second
CRP	C reactive protein
CT	Computed tomography
DEXA	Dual-Energy X-ray Absorptiometry
DM	Diabetes mellitus
DSIP	Delta sleep inducing peptide
EEG	Electroencephalogram
ESRD	End-stage renal disease
FFM	Fat free mass
GDNF	Glial cell line derived neurotropic factor

LIST OF ABBREVIATIONS (CONT...)

Abbrev.	Full term
GERD	Gastro-esophageal reflux disease
GH	Growth Hormone
GHB	Gamma hydroxyl butyrate
GHRH	Growth hormone release hormone
GIT	Gastrointestinal tract
Hcrtr	Hypocretin receptor
HDL	High density lipoprotein
HOMA	Homeostatic Model Assessment
Hrs	Hours
HRSA	Health Resources and Services Administration
IBS	Irritable bowel syndrome
IFα	Interferon alpha
IGF	Insulin like growth factors
IGFBPs	Insulin growth factor binding proteins
IL	Interleukin
JGA	Juxta-glomerular apparatus
LDL	Low density lipoprotein
LDT	Latero-dorsal tegmental
LV	Left ventricular
MCR	Melanocortin receptor
MRI	Magnetic resonance imaging
NAFLD	Non-alcoholic fatty liver disease
NGF	Nerve growth factor
NIDDM	Non-insulin dependent diabetes mellitus

LIST OF ABBREVIATIONS (CONT...)

Abbrev.	Full term
NREM	Non rapid eye movement
Ob gene	Obese gene
OHS	Obesity hypoventilation syndrome
OSA	Obstructive sleep apnea
PGO	Ponto-geniculo-occipital
POMC	Pro-opio-melanocortin
POSTS	Positive occipital sharp transient of sleep
PPT	Pedunculo-pontine tegmental nuclei
PRF	Pontine reticular formation
QUICKI	Quantitative Insulin sensitivity Check Index
REM	Rapid eye movement
RMR	Resting metabolic rate
RQ	Respiratory quotient
RYGB	Roux-en-Y gastric bypass
SCN	Suprachiasmatic nucleus
SD	Standard of deviation
SWA	Slow wave awakening
SWS	Slow wave sleep
TCA	Tricyclic antidepressants
TNF	Tumor necrosis factor
TSH	Thyroid stimulation hormone
US	United States
WC	Waist circumference
WHO	World Health Organization

INTRODUCTION

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Obesity has now become a major public health concern around the world. It increased globally during the last decade and has now reached epidemic proportions. The increasing prevalence of overweight and obesity among children is of special concern, since it predicts obesity in adult age. ***(Philippas and Lo, 2005)***

In 2004, the World Health Organization (WHO) reported that; an estimated 22 million children younger than 5 years of age and 10% of school-aged children between 5 and 17 years were overweight or obese. ***(Zimmet et al., 2007)***

In the past 3 decades, obesity has more than doubled around the world with an estimated 43 million children younger than 5 years considered overweight. ***(WHO, 2008)***

The prevalence and severity of childhood obesity is dramatically increasing with a corresponding increase in the prevalence of obesity related morbidities particularly those involving obstructive sleep apnea and metabolic and cardiovascular sequelae. ***(Tauman and Gozal, 2006)***

Childhood obesity is associated with several unhealthy conditions as; high blood pressure, abnormal glucose & cholesterol levels, social discrimination, depression and behavioral problems. ***(Sabin et al., 2006)***

Introduction

Currently, there is an interest in the possible association between sleep and obesity. Sleep processes help in the regulation of secretion of the hormones related to growth and energy homeostasis and thus play an important role in the growth, maturation and health of children and adolescents. ***(Mindell et al., 1999)***

It is estimated that, approximately 25-50% of infants and children experience inadequate sleep and more than 2 million children suffer from sleep disorders such as obstructive sleep apnea. ***(National Sleep Foundation, 2004)***

The association between sleep problems and childhood obesity has been shown in a number of studies around the world. ***(Taveras et al., 2008)***

AIM OF THE WORK

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- This study aimed to:

1- Describe sleep patterns in overweight/obese children.

2- Assess the relationship between sleep patterns and childhood obesity.