Study of Binge Eating and Food Addiction in Egyptian Adolescents

Submitted for partial fulfillment of Masters Degree in Pediatrics

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Dedication

Dedicated to those who inspired me
throughout my whole life
to my husband and my family

ACKNOWLEDGMENT

*First, I thank **God** for granting me the power to proceed and to accomplish this work.*

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List of Abbreviations

ACC	ANTERIOR CINGULATE CORTEX
ADHD	ATTENTION-DEFICIT/HYPERACTIVITY DISORDER
AN	ANOREXIA NERVOSA
BED	BINGE EATING DISORDER
BES	BINGE EATING SCALE
BMI	BODY MASS INDEX
BN	BULIMIA NERVOSA
BPD	BORDERLINE PERSONALITY DISORDER
CBT	COGNITIVE BEHAVIORAL THERAPY
DA	DOPAMINE
DBT	DIALECTICAL BEHAVIOR THERAPY
dlPFC	DORSOLATERAL PREFRONTAL CORTEX
DRD2	DOPAMINE D2 RECEPTOR
DSM	DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS
DSM-IV-TR	DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS-4TH ED-TEXT REVISION
EDE-Q	EATING DISORDER-QUESTIONNAIRE
ESI	EATING SYMPTOMS INVENTORY
FA	FOOD ADDICTION
fMRI	FUNCTIONAL MAGNETIC RESONANCE IMAGING
HT	HEIGHT
ICD	INTERNATIONAL CLASSIFICATION OF DISEASES
IPT	INTERPERSONAL PSYCHOTHERAPY
KEDS	KIDS' EATING DISORDERS SURVEY
LMICs	LOW- AND MIDDLE-INCOME COUNTRIES
NAc	NUCLEUS ACCUMBENS
No.	NUMBER

OA	Overeaters Anonymous
OFC	orbitofrontal cortex
PET	positron emission tomography
PFC	prefrontal cortex
QEWP-A	Questionnaire of Eating and Weight Patterns-Adolescent version
RDs	Registered Dietitians
SDS	standard deviation
SUD	substance use disorder
UNICEF	United Nations International Children's Emergency
vmPFC	ventral medial prefrontal cortex
VTA	ventral tegmental area
W/H	waist/hip
W/HT	waist/height
WT	Weight
YFAS	Yale Food Addiction Scale

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Introduction

Binge eating disorder (BED)is defined as recurring episodes of eating significantly more food in a short period of time than most people would eat under similar circumstances, with episodes marked by feelings of lack of control. A patient with binge eating disorder may eat too quickly, even when he or she is not hungry. The patient may have feelings of guilt, embarrassment, or disgust and may binge eat alone to hide the behavior. BED is associated with marked distress and occurs, on average, at least once a week over three months (**American Psychiatric Association, 2013).**

BED is relatively common among adolescents and is associated with a substantially increased risk of numerous adverse outcomes e.g. drug abuse. Patients with BED are particularly unlikely to seek treatment for their eating disorder so primary care clinicians need to be made aware of these disorders so that adolescents in need of treatment will be identified (**Field et al., 2012; Field et al., 2014)**.

There have been various attempts to explain why some people chronically overeat and seem unable to restrain their food intake. One explanation relates directly to the markedly "toxic," and dramatically changed, food environment in recent years (**Horgen& Brownell, 2002)**.

A growing body of clinical and neurobiological evidence has shown how persistent overeating can lead, in vulnerable individuals, to a pattern of compulsive behaviour similar to that seen in drug abuse and other addiction disorders (**Davis & Carter, 2009).**

There are many parallels between food and drug cravings in humans and in animals**.** If there are no negative consequences of eating food and there are no failed attempts to discontinue eating large amounts or certain types of food, there is no diagnosis of addiction (**Pelchat, 2009)**.

Neither obesity nor BED is synonymous with food addiction (FA) because only 41.5% of obese patients with BED met the food addiction threshold. To more appropriately evaluate the contribution of an addictive process to obesity and disordered eating, it will be important to specifically assess indicators of food addiction. It has been suggested that the presence of "food addiction" may indicate a more severe presentation of BED, associated with factors such as greater negative affect, more frequent binge eating episodes, and earlier onset of problematic eating behavior. This finding may be important for future research on the impact of food addiction on treatment outcomes (**Gearhardt et al., 2013)**.

Those who meet the criteria of for FA had a significant co-morbidity with BED, depression and attention-deficit/hyperactivity disorder (ADHD) compared to their age-and weight- equivalent counterparts. They were also more impulsive, displayed greater food cravings and tendency to "self soothe" with food (**Davis et al., 2011)**.

Aim of the Work

Assessment of binge eating disorder and food addiction in a representative sample of Egyptian adolescents.

Chapter (1)
Binge Eating

Although there is substantial evidence that symptoms of eating disorders are prevalent during adolescence, less is known about binge eating and BED in the pediatric population. Available research on children and adolescents has focused primarily on anorexia nervosa (AN) and bulimia nervosa (BN) (**Steiner & Lock, 1998; Nicholls et al., 2000)**.

It is noteworthy that binge eating often has been studied in conjunction with inappropriate compensatory behaviors in risk factor studies. However, only a minority of adults with BED report meeting lifetime criteria for BN. For example, in a community-based study, only 10% of the women with BED reported a history of BN. These data suggest that different factors may be associated with the pathogenesis of BED and BN, but prospective studies are needed to understand potential differences in the precursors of BED versus BN (**Striegel-Moore et al., 2001)**.

Swanson and his colleagues (2011) presented the lifetime and 12-month prevalence of AN, BN, BED, and subthreshold eating disorders, examined their