Association between Impulsivity and Development of Eating Disorders in Females with Depressive Disorders

Thesis

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Abstract

Depressive disorders are often associated with various negative outcomes including disordered eating behavior, binge eating, and body image dissatisfaction

Many studies investigated the relationship between depressive disorders and disordered eating and as depression is more common in middle aged women, it has been suggested that depression mediates the relationship between low self esteem and eating pathology.

On the other hand there have been number of studies suggesting that impulsivity may be a characteristic of people who exhibit aspects of abnormal eating.

Aim of the work:

- To assess the relation between severity of depression and presence of eating disorder in females with depressive disorders.
- To study the relation between impulsivity and presence of eating disorders in females with depressive disorders.

Key Words :

Anorexia nervosa - Eating disorders – Tryptophan .

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List of Abbreviations

AN	:	Anorexia nervosa
APA	:	American Psychiatric Association
BDI-II	:	Beck Depression Inventory (2^{nd} version)
BED	:	Bing eating disorder
BIS-II	:	Barrat Impulsivity Scale (11^{th} version)
BMI	:	Body mass index
BN	:	Bulimia nervosa
CBT	:	Cognitive behavioural therapy
DSM-IV TR	:	Diagnostic and Statistical Manual of Mental Disorder Fourth Edition Text Revised
EAT-26	:	Eating Attitude Test
ED	:	Eating disorders
EDNOS	:	Eating disorder not otherwise specified
FDA	:	Food and Drug Administration
HPA	:	Hypothalamic pituitary adrenal axis
ICD-10	:	International Classification of Mental and Behavioural Disorders (10^{th} Revision)
IPT	:	Interpersonal therapy
LNAA	:	Large neutral aminoacids
MDD	:	Major depressive disorder
NICE	:	National Institute for Clinical Experience
PFC	:	Prefrontal cortex
PMS	:	Premenstrual Syndrome
PSE	:	Present State Examination
SD	:	Standard deviation
SSRI	:	Selective serotonin re-uptake inhibitor
TRP	:	Tryptophan
WHO	:	World Health Organization
5-HT	:	5 Hydroxy Tryptophan

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INTRODUCTION

Depressive disorders are often associated with various negative outcomes including disordered eating behavior, increased substance use, binge eating and body image dissatisfaction **(Measelle et al., 2006).**

Some theoretical models of eating disorder etiology have emphasized the role of depression in the onset of eating disorders. The strong clinical sentiment that depressed mood or difficulty in regulating negative mood may be related to eating disorder risk. There is a strong clinical sentiment that low self-esteem is a core feature of women with eating disorders **(Cooper, 1995)**.

Eating behavior is a complex process controlled by the neuroendocrine system of which the Hypothalamic-pituitary-adrenal-axis (HPA axis) is a major component. Dysregulation of the HPA axis has been associated with eating disorders, such as irregularities in the manufacture, amount or transmission of certain neurotransmitters, hormones or neuropeptides and amino acids such as homocysteine. Serotonin, a neurotransmitter involved in depression also has an inhibitory effect on eating behavior **(Wilhelm et al., 2010)**.

A co-morbid relationship has been found between depressive disorders and disordered eating symptoms **(Perez et al., 2004).** Research has also found that these disorders share similar risk factors, such as body image dissatisfaction **(Johnson & Wardle, 2005),** low self-esteem and poor social support **(Muris et al., 2005).**

Eating disorders have mainly been regarded as disorders of women. It has often been labeled in the literature as a white middle to upper class female phenomena (**Root, 1990**).

A growing body of literature suggests that the concept of impulsivity is a contributing factor to ED symptomatology, particularly in those diagnoses characterized primarily by bingeing behavior such as bulimia nervosa (BN) as opposed to anorexia nervosa (AN), which is characterized primarily by restrictive eating behavior. Impulsivity in this context refers to an inability to exert self-control in the presence of strong emotional and/or motivational factors, such as positive or negative affect, or tangible reinforcers such as money or food. This reflects the definition of "urgency" which is a factor of impulsivity "related to an inability to resist cravings, bingeing, and acting rashly while upset" (**Whiteside & Lynam, 2001**).

Indeed it has been suggested that impulsivity may be one aspect that differentiates patients with bulimia nervosa from bulimic patients with the presence of an impulsive, novelty-seeking temperament accounting for additional risky behaviors in women who binge-eat/purge (**Wolfe & Maisto, 2000**).

Various researches have described impulsivity related constructs using terms such as lack of control, lack of deliberation, excitement seeking, novelty seeking and lack of self discipline. Although these impulsivity constructs show some conceptual and content overlap, there may also be real and important distinctions among them **(Miller et al., 2003).**

AIM OF THE WORK

1. To assess the relation between severity of depression and presence of eating disorders in females depressive disorders.
2. To study the relation between impulsivity and presence of eating disorders in females with depressive disorders.

HYPOTHESIS

Severity of depression is positively related to presence of eating disorders and also impulsivity is positively associated with presence of eating disorders.

CHAPTER I

Eating and Emotions

It has long been recognized that eating is one of the most basic and important functions of the human organism. Food, along with sex and security, is one of the basis for self, society and culture. It is an obvious truth that food is not only inseparable from the history of the human race, but basic to it. Without food there would be no human race and no history **(Tannahill, 1989).** Eating is not an automatic process, like breathing, but rather it is affected by many subtle factors which are physiological, psychological and not less social **(Gilbert, 1986)**.

Social, cultural and religious influence on eating behavior

Food is an expressive and communicative system, which reflects relationships within social groups such as families, as well as people's attitudes about their bodies **(Douglas, 1982)**. A cultural group provides guidelines regarding acceptable foods, food combinations, eating patterns, and eating behaviors. This is evident in Egypt as feasts are very much linked to food. Egyptians do eat specific types of food on certain occasions and these types of food are inherited from their ancestors thousands of years ago **(Asante, 2002)**

Compliance with these guidelines creates a sense of identity and belonging for the individual. Within large cultural groups, subgroups exist that may practice variations of the group's eating behaviors, though

they are still considered part of the larger group **(Kittler & Sucher, 1998).**

While thinness is widely considered in the Western societies to symbolize beauty and attractiveness, ancient Arab culture regarded a certain degree of plumpness as a symbol of family care, fertility and womanhood **(Nasser, 1997)**. However, with rapid social changes occurring in many of the Arab countries the attitudes and behaviors of the younger generation in these countries are swinging more towards the Western values **(Al-Subaie, 1999)**.

History shows that disordered eating behavior has been reported since ancient times in some cultures, but their apparent frequency has varied greatly over time. Ancient Greek and Egyptians cultures have records that indicate fasting for brief periods, but no prolonged fasting as is seen in anorexia nervosa is suggested in their records. Other historical accounts from ancient Egypt and Greek describe more driven behaviors which resembles bulimia **(Bemporad, 1997)**

As for religious proscriptions they range from a few to many, from relaxed to highly restrictive. This affects people's food choices and behaviors. For example, in some religions specific foods are prohibited, such as pork among Jewish and Muslim adherents. Within Christianity, the Seventh-day Adventists discourage "stimulating" beverages such as alcohol, which is not forbidden among Catholics **(Klimis & Dorothy, 2001).**

Physiological relation between eating and emotions

The relationship between food and mood is potentially bidirectional **(Christensen & Brooks, 2006).** Eating behavior is a complex process controlled by the neuroendocrine system of which the (HPA axis) is a major component**.** It has been proposed that cortisol and insulin may stimulate ingestion of energy-dense "comfort foods", which then protects the HPA axis from stress-induced dysfunction and associated depression and anxiety **(Dallman et al., 2003)**.

Eating when hungry is both pleasurable and rewarding. Research has shown that eating activates neural substrates in a similar manner to drug abuse **(Grigson, 2002).** The most evidenced neural substrates of reward are the dopamine, opioid and benzodiazepine/GABA neurotransmitter systems where as dopamine underlies motivational aspects of eating ('wanting'), while opioid and benzodiazepine systems may mediate hedonic evaluation of food sensory stimuli ('liking') **(Berridge & Robinson, 1998)**.

Endogenous opioids are involved in reward process of eating behavior, such as stimulation of appetite by palatable foods, as well as adaptive response to stress and discomfort **(Mercer & Holder 1997)**. One might therefore expect a link between opioid action, mood and food choice where the ingestion of sweet and fatty foods, including milk, alleviates crying and other behavioral signs of distress **(Upadhyay et al., 2004)**. This effect depends on sweet taste rather than calories which reduce crying **(Barr et al., 1999)** and it can be blocked by opioid