

Effects of Emotional Eating on Eating Behaviors Disorder in Students: The Effects of Anxious Mood and Emotion Expression

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Abstract

Introduction

There is a long-term interest in the effects of undesirable emotions to eating behaviors, due to the strain that it places on a person which can lead to loses his/her health. The present study examined the degree of disordered eating behaviors related to anxiety and alexithymia among high schools students.

Materials and Methods

This cross-sectional study on 344 girl students of Tehran's high schools, who were selected by multiple cluster sampling, was conducted. Participants responded to the questionnaires of anxiety of Costello and Comrey (1967), Twenty-item Toronto alexithymia and disordered eating behaviors of Garner and colleagues (1982). The data were analyzed by regression and correlation techniques.

Results

Results showed that there was significant positive correlation among anxiety, alexithymia and disordered eating behaviors ($p < 0.05$). In stepwise regression analysis, anxiety and alexithymia significantly predicted, respectively, 35% and 22% of the variance of disordered eating behaviors ($p < 0.05$).

Conclusion

Anxious mood and emotions expression can influence on eating behaviors. Therefore, considering these variables can be important to prevent the development of eating-related diseases and to promote girls health.

Keywords: Alexithymia, Anxiety, Disordered eating behaviors, Students.

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Introduction

Eating disorders, as a life threatening condition, are serious disturbances in eating and body image. Eating disorders are very common among women (1). Eating disorders are as heterogeneous multidimensional syndrome and as a result of neurobiology, psychological, social and cultural function (2). For example, eating disorders among women is due to the cultural focus on female thinness (3). From a developmental perspective, researchers have suggested various factors must be considered as integrated and eating disorders should be conceptualized as developmental disorders in the process of self-regulation with deficits in processing capacity and emotional regulation as the initial disturbance (4). In the recent years, eating disorders and problematic eating behaviors and beliefs are increasingly common (5). Anorexia nervosa and bulimia nervosa affect about 0.3% to 1% of women and is more common among aged 15 to 24 years old women (6). Maladaptive eating attitudes are a common problem among teenagers and can be a prelude for eating disorders (5). Research shows that people with emotional disorders such as depression, anxiety, obsessive-compulsive disorder, interpersonal sensitivity and social phobia have a greater risk of developing eating disorders (7-9). Recent researches have focused their attention on role of personality and their structures in creating the eating disorder (10). Conceptual relationship between personality and eating disorders are very complicated. Also people with eating disorders routinely have diagnostic criteria for personality disorders (11). From the perspective of treatment in eating disorders, comorbidity of eating disorders with personality disorders can interfere with the healing process (12). High schools girls are important target to encourage a healthy lifestyle in

adolescence population (13). Researches show that the population in this age group has the greatest risk for beginning of eating disorders (14). Psychiatric comorbidity is very common in people with eating disorders. Clinical and society studies show between 55% to 98% of individuals with anorexia nervosa and 88% to 97% of people with bulimia nervosa have axis I disorders (15). Studies show that the rate of anxiety disorders in women with anorexia nervosa is higher in compared with control group and beginning of the anxiety disorders is the prelude of anorexia nervosa. Women with bulimia nervosa in clinical and community samples, report one or more of an anxiety disorder (16, 17). One of the issues studied in this research was to investigation of relationship between anxiety variable and disordered eating behaviors.

In addition, the previous research showed alexithymia is related with disordered eating behaviors in non clinical population (18). A few researches is done in relationship between alexithymia and disordered eating behaviors in non-clinical samples and this type of research is undoubtedly important; Especially in non-clinical samples which are combination of girls students that disordered eating behaviors are more common among them. Sifneos (19) defines alexithymic as persons with physical, mental symptoms which are unable to identify and express emotions. Alexithymic has three main features: difficulties identifying feelings, difficulties describing feelings, externally-oriented thinking (19, 20). Difficulty in identifying feelings occurs when a person is in distress with distinction between feelings. Difficulty in describing feelings is when a person can't express what feels emotionally. External orientation thinking occurs when a person tends to think about the external affairs and in contrast to internal thinking orientation (21).

Alexithymic will link as emotional adjustment disorder with primary defenses, non-adaptive coping styles, vulnerability against physical stress and psycho-physical symptoms (22). Individuals with alexithymic show lower levels of empathy (4). Recent research indicates that alexithymic have negative effects on psycho-emotional well-being and it is a risk factor in suffering individuals from emotional distress, psychological problems and lack of mental health (23). Alexithymia is related to pain (24), rheumatoid arthritis (25), obesity (26), irritable bowel syndrome (27), depression (28), self-injured behaviors (29), anorexia nervosa (30), overeating (31) and job burnout (23). One of the issues studied in this research is to investigate the relationship between alexithymia and disordered eating behaviors.

In attention to above materials, the aim of current research was to investigate the role of anxiety and alexithymia in predicting disordered eating behaviors among high school girls.

Materials and Methods

In the current research is used of a cross-sectional design. This research was administrated on 344 girl students of Tehran-Iran high schools in 2013 year. The sample size was calculated using a multi-stage cluster sampling method and Morgan table among girls aged 13-16 years. The used questionnaires in this research were as

- 1) **Toronto Alexithymia Scale (32):** Alexithymia was measured using the 20-items Toronto Alexithymia Scale which consists of three subscales “difficulty identifying feelings”, “difficulty describing feelings”, and an “externally oriented (or concrete) thinking style”. The statements are rank ordered to reflect agreements’ severity from strongly disagree (1) to strongly agree (5). A total score is calculated by summing the three

subscales scores for the total alexithymia. Besharat (33) prepare the Persian version of the Toronto alexithymia scale and Cronbach’s alpha coefficient for total alexithymia and its’ three subscales obtained, respectively, 0.85, 0.82, 0.75 and 0.72 that indicate the internal consistency of scale is good. The test-retest reliability of this scale was confirmed in a sample with 67 participants on two occasions with a interval of 4 weeks of 0.80 to 0.87 for total alexithymia and its’ subscales (34). This scale is the most widely used tool to measure alexithymia (35). In the present study, the reliability coefficient is obtained equal to 0.79 by Cronbach’s alpha.

- 2) **Anxiety Scale:** This was measured with the Costello-Comrey Anxiety Scale (CCAS) (36). The CCAS is a nine-item scale developed to measure anxious affective states. Participants responded to this scale in a five-grade Likert style of 1 (mostly disagree) to 5 (mostly agree). A sample of the questions of this scale: “when forced to wait, I’m nervous”. Validity and reliability of the scale have investigated in the research of Ghorbani and et al. (37). In this research, Cronbach’s alpha coefficient was reported 0.73 and also, has high validity. In the present study, the reliability coefficient is obtained equal to 0.78 by Cronbach’s alpha.
- 3) **Eating Attitudes Test-26 (EAT-26):** *The 26-items of Garner and et al.* (38), is a screening tool that is used to help whether eating behavior and attitudes of respondents require further assessment. The questionnaire does not provide a diagnosis, but rather, it identifies symptoms that are consistent with any of the eating disorders. Two examples of this scale questions “I am constantly preoccupied with food” and “when I eat, I feel I’m not able to stop her”. This scale is based on Likert style from 1 (always) to 6 (never). Rivas and et al. (39) showed that this scale have a high internal consistency. Also, the researchers found that the scale has the ability to distinguish between

participants with Eating disorders (ED), symptomatic and asymptomatic, using of the results of eating disorder diagnosis questionnaire (40) as the criterion. This study could identify subjects with ED and without ED. In the present study, the reliability coefficient is obtained equal to 0.83 by Cronbach's alpha. In the current study, was used of descriptive statistics and the regression

analysis for analyzing data. Data were analyzed using SPSS 15 software and p value less than 0.05 was statistically considered significant.

Results

Mean, standard deviation and internal correlations of variables under study are presented in (Table.1).

Table 1: Mean, Error Standard and internal collections of variables

Variables	Correlations				
	\bar{X}	SD	1	2	3
1.Anxiety	22.44	8/12	1		
2.Alexithymia	46.22	9/24	0.22**	1	
3.Disordered eating behaviors	26.51	8/11	0.49**	0.29**	1

As can be seen, there were significant relationships among anxiety, alexithymia and disordered eating behaviors (p<0.01). To assess the predictive power of disordered eating behaviors by anxiety and

alexithymia variables were used of the stepwise regression analysis. The results of model summary are presented in (Table 2).

Table 2: Summary of regression analysis model

Variable	R	R ²	ΔR^2	ΔF^2	Sig.
Step 1: anxiety	0.49	0.24	0.24	106.77	.000
Step 2: anxiety and alexithymia	0.63	0.40	0.16	93.46	.000

The results of regression model for explaining disordered eating behaviors based on anxiety and alexitymia indicated that F-statistic for both models is significant in p<0.001. Therefore, there

was the explanation possible of disordered eating behaviors based on both variables. In Table 3, the regression coefficients of stepwise regression analysis are presented.

Table 3: Summary of stepwise regression analysis to predict disordered eating behaviors based on anxiety and alexithymia

Variable	β	B	SE B	t	R ²	Sig.
Anxiety	0.58	1.02	0.07	13.47	0.35	.000
Alexithymia	0.42	0.42	0.04	9.66	0.22	.000

As can be seen, anxiety variable with $\beta=0.58$ can significantly predict almost %35 of the variance of disordered eating behaviors. Also, alexitymia variable with $\beta=0.42$ can significantly predict almost %22 of the variance of disordered eating behaviors.

The results of this study showed that anxiety variable can significantly predict disordered eating behaviors. These results are consistent with pervious finding (17, 38, 41 & 42). These findings can be interpreted in terms of the following possibilities:

Discussion

Eating disorders have high rates of comorbidity with other mental disorders, especially anxiety disorders. There is a diagnostic overlap between eating disorders with anxiety disorders (17). For example, the common symptoms of bulimia and anorexia nervosa may include severe anxiety about food and eating, fear of gaining weight and anxiety about social evaluation (43). For example, the effects of starving and other applied ways for losing weight may be observed in obsessive compulsive behaviors related to food, eating and body checking as an anxiety disorder (44). The researches show people with eating disorders who has anxiety disorders, are more likely to be resistant against symptoms of eating disorders, have lower health, and show a higher rate of mortality in comparison with people without comorbidity disorder in 14-years period follow up (45). For example, it can be said that the social anxiety by inhibiting commitment in people with eating disorders to the treatment process, due to fear of negative evaluation and avoiding from interaction with others may express a part of comorbid unfavorable variance of anxiety disorders with eating disorder in field of treatment (46). The comorbidity of anxiety disorders shows higher severity of disorder and complexity in appearing the eating disorders which may predict independently the poor consequences (47). In the research was done about the relation of eating with emotion over 22 high weight individuals, the results showed that unfavorable emotion have a specific relation with eating disorder and the anxiety was expressed the most reason for disordered eating behavior (48). When the anxiety is applied in experimental situations, it is more likely that the subjects suffer from disordered eating behavior even if the food isn't delicious (41). Although, the special nature of relations between eating disorders and anxiety is not clear, the researchers say that anxiety may be a dangerous factor in

making eating disorders, anxiety may be secondary to eating disorders and or both disorders may share some common vulnerable factors (49). For example, recent theories say that the negative initial experiences are the dangerous factor in growing both disorders. In this model, the basic deleterious cognitions lead to deleterious avoided cognitions, these results from application of safe behaviors that includes both disorders (50). Of this view, the child's anxiety may have an etiology role in making eating disorders which their origin is from ultra fear about situations and certain events which finally leads to extra fear about eating, appearance and weight and at last, leads to disordered eating behavior (51).

Also, the results of this study showed alexithymia can significantly predict disordered eating behaviors. These results are consistent with the findings of previous research (52-55). These findings can be interpreted according to following possibilities. Alexithymia have dimensions of emotional disability in describing and identifying emotions and cognitive aspects of thinking has objective and external oriented (56). Research has shown inability to express emotional experiences as a result of non-discrimination and unregulated emotions have related with disordered eating behaviors by the distortion of body image (57). Cognitive constraints on emotion regulation in people with alexithymia are associated with maladaptive behavior such as starvation or substance abuse because of self-regulatory behaviors. Lack of insight and thinking styles (external oriented) of persons with alexithymia interfere with ability of these individuals to benefit of psychotherapeutic interventions. Females with disordered eating behaviors have higher level of alexithymia than women in the control group and may be their emotions transfer to physical feelings and physical appearance (58). Disability in identifying of emotions has related with

body dissatisfaction in people with disordered eating behaviors (57). Researches show that the rate of alexithymia in people with eating disorders is at a higher level than people who have been improved their eating disorders and symptoms of eating disorders represent internal conflicts and unclear feelings (59). Individuals with high levels of alexithymia have difficulties in identifying and describing their feelings. They are disorganized due to their limitations in adjusting these emotions by uncontrollable feelings; finally they try to adjust themselves by self-incitement maladaptive behaviors like being on a diet. These strategies are as non-conductive efforts which they are applied to organize internal emotions and feelings and integrate the self-defense sense. It is vital to identify alexithymia in persons with eating disorders symptoms as a negative prognostic factor for treatment strategies (55).

Conclusion

In summary, the present findings suggest that alexithymia and anxiety can significantly predict disordered eating behaviors among high school girls. The findings of this study will expand previous research on the relationship between anxiety and alexithymia with eating disorders in non-clinical sample of females. A group of girl's students are at risk for developing eating disorders and primary and secondary prevention programs are required in order to cope with the situation between them. Using the strategy to provide information to young girls is important as prevention programs. These programs prevent the occurrence of new cases and persons who have this disorder are encouraged to look for the relevant professionals. This study is required replication and experimental confirmations because of its novelty in the Iranian cases. Until then, the findings

should be interpreted with caution. Similarly, sample (group of students) and research (correlation) are discussed the limitations of findings generalizability, interpretation and causal attribution and should be considered. Furthermore, the limitations of self-report measures in this study should not be ignored.

Conflict of Interest

The authors declare that they have no competing interests.

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