

Body Image Dissatisfaction and its Relationships with Psychiatric Symptomatology, Eating Beliefs and Self Esteem in Egyptian Female Adolescents

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ABSTRACT:

Background: In recent years, a large number of studies have demonstrated that many factors may exert an influence on the self perceptions and attitudes of adolescents that lead to body dissatisfaction and subsequent behaviors aimed at changing their body shape and size.

Objective: The purpose of this study was to determine the prevalence of Body image dissatisfaction in non clinical population of high school students at high-risk for an eating disorder and examine the relationships with psychiatric symptoms, eating disorders beliefs and self esteem, **Method:** A cross-sectional study based on self-report was used to screen 416 Egyptian female adolescents aged from 15-18 years. The assessment tools included: a social-demographic questionnaire, the Body Image Distortion Questionnaire (BIDQ), the Eating Disorders Belief questionnaire (EDBQ), the Symptom Check List 90-R (SCL-90-R), and the Self-Esteem Scale (SES). Results were partially consistent with those reported in Western nations.

Results: Our sample reported greater body dissatisfaction. It was found that 28.8% had low body image satisfaction, 31.7% had average satisfaction and 39.4% had high satisfaction. Female adolescents with low body image satisfaction showed higher levels of somatization (30% vs. 12.2%, $p=0.000$), obsessive compulsive (23.3% vs. 8.1%, $p=0.000$), depression (20% vs. 13.5%, $p=0.09$), and anxiety (30% vs. 16.2%, $p=0.002$). Body image dissatisfaction was also correlated to negative eating disorder beliefs ($r=-0.11$, $p=0.025$). Besides, there was moderate correlation with low self esteem ($r=-0.53$, $p=0.000$). **Conclusion:** The prevalence of body dissatisfaction among adolescents of urban Egypt was striking, and psychiatric researches should be more concerned about issues of body image and concurrent psychiatric morbidity.

Key words: Body image dissatisfaction, Psychiatric symptomatology, Eating beliefs, Self esteem, Egypt.

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INTRODUCTION:

In recent years, a large number of studies have demonstrated that many factors may exert an influence on the self perceptions and attitudes of adolescents that lead to body dissatisfaction and subsequent behaviors aimed at changing their body shape and size¹⁻³. Research suggests that, in general, adolescent girls are more dissatisfied with their body shape and size than adolescent boys⁴, and that many

adolescent girls and young adult women engage in an unnecessary pursuit of thinness⁵. Adolescent boys and young adult men, on the other hand, pursue the muscular mesomorph ideal⁶.

Over the past 20 years much research has been directed towards evaluating the nature and correlates of eating disorders. One factor that appears to be common between adolescents diagnosed as suffering from

clinical levels of eating pathology is a high level of perceived body image dissatisfaction (PBID). Indeed, a longitudinal study of eating behaviors in a group of pre- and post-menarcheal adolescent girls indicated that PBID was the single significant factor among others, including pubertal status, family relationships, reported eating problems, psychopathology, emotional tone, and impulse control, which predicted the development of future eating problems of significance⁷, PBID has also been reported to be highly prevalent within non-eating disordered populations of adolescents, particularly females⁸. Furthermore, it has been reported that Body-image disturbance and eating disorders are a significant physical and mental health problem in Western countries. Another study described newly identified variable that appeared to be a potent risk factor for the development of these problems been linked with popular and socially accepted restrictive dietary behaviors⁹. This finding has led researchers to propose that there may be an incremental process or line of continuum in the development of eating pathology, with "normative" levels of PBID and preliminary dietary behaviors at one end, extending into clinical eating disorders at the other^{7, 10}.

The notion of PBID being a "normative" component of female life in Western society was first introduced into the literature proposing that cultural values of attractiveness being equal to thinness and social pressures to conform have led women, in particular, to be preoccupied with the pursuit of a thin ideal. Consistent with this line of thinking, much of the research into PBID has been directed toward examination of the physiological and sociocultural correlates of PBID¹¹. Studies have included evaluation and

exploration of factors such as gender⁸, actual body weight¹², pubertal development, and age¹³. Also, issues such as the psychological consequences of being perceived as fat¹⁴, the promotion of attractiveness as being equated with thinness, and the high level of media attention toward promotion of dieting and sexual attractiveness¹⁵ have received a good deal of attention.

In contrast, research into the relationships between PBID and psychiatric well-being variables, such as depression and self-esteem, has been limited. Those studies that have investigated the psychological profile of adolescents who report high levels of PBID indicate a rather complex pattern of relationships between these two constructs. For example, Kaplan et al. reported a strong relationship between PBID and depression, such that adolescents who perceived themselves to be of normal weight were less depressed than those who thought they were underweight or overweight¹⁶. A study of depressive symptomatology and body image by suggested that negative cognitions served to undermine adolescents' perception of their body, leading both male and female adolescents who were experiencing depression to develop high levels of body dissatisfaction¹⁷. However, it is noteworthy that, in a study of sex differences and depression in adolescent girls and boys, the strong relationship they showed between PBID and depression was eliminated when they controlled for self-esteem¹⁸. These authors concluded that body image is not a separate construct, but an important aspect of self-esteem.

However, contrary to the above findings, no significant differences between the self-esteem scores of college women who wanted to be thinner and college women

who reported satisfaction with their present figures was found¹⁹. Also self-esteem was not a correlate of body-esteem, size overestimation, or eating disturbance²⁰. Thus, research examining the relationships between psychological well-being variables and perceptions of body image has not resulted in any conclusive understanding of the nature or extent of relationship between these constructs.

The purposes of this study are: (1) to describe the prevalence and levels of body image dissatisfaction among Egyptian female adolescents (2) to examine the relationship of Psychiatric symptomatology and negative Eating beliefs with Body image dissatisfaction and (3) to examine the effects of perceived body image dissatisfaction on self-esteem in high school population in Egypt.

SUBJECTS AND METHODS

Subjects and sampling method: The subjects of the study were from first, second and third years of secondary school students of 2 public and 2 private secondary schools across Cairo; Egypt. Hence increasing the representativeness of the sample with regard to demographic variables including socioeconomic status (i.e. annual income of household), birthplace and geographic location. Prior to data collection, the purpose of the study was described, and consent was obtained. Approval was obtained from the School authorities and oral informed consent was obtained from the parents of students. Participants were assured of anonymity and confidentiality. The questionnaires were administered in the females' classrooms supervised by first author. The questionnaire was applied to 110 students of each school of total 440. No subject refused to participate in the study. But

because of the absence of answers for some questions, the data of 24 subjects were excluded. 416 students finally constituted the sample of this study. The students ranged from 15 to 18 years in age, with a mean age of 16.55 (SD=0.66).

The anonymous questionnaire took approximately 45 min to complete. Students were given the option of receiving the results of their assessment if they gave a telephone number and coded name. Data were collected in November and December 2007.

Measures: All participants completed the following questionnaire:

Socio Demographic Questionnaire: This questionnaire collected demographic variables (age, self-reported, marital status, as it measures the social class classification by measuring the level of education of subjects and their parents and the average family income and family index per room and electric and sanitary services)²¹.

Body Image Distortion Questionnaire: BIDQ is an Arabic questionnaire²² that consists of a 34 item scale with scores between 1 (never) to 5 (always) for each item. It measures the cognitive and behavioral symptoms which associated with personal body dissatisfaction. A lower score less than 112 indicates more body dissatisfaction while higher score more than 140 indicate high self body image satisfaction and between 112 and 140 scores indicates Average Body satisfaction.

The Eating Disorder Belief Questionnaire (EDBQ): Self-report questionnaire was to assess assumptions and beliefs associated with eating disorders²³. Factor analyses suggested a replicable four factor over eating. The subscales possess good psychometric properties and significant

correlations were found between the subscales and other measures of the specific and general psychopathology of eating disorders. Structure consisting of the following dimensions: negative self-beliefs; weight and shape as a means to acceptance by others; weight and shape as a means to self-acceptance using the Arabic version²². Higher score more than 90 means negative Eating disorders beliefs.

Psychiatric Symptomatology: The mental health of the sample was assessed using the Symptom Check List 90 Revised (SCL-90-R)²⁴ and the Arabic version²⁵. It consists of is a 90-item self-report symptom inventory designed to screen for a broad range of Psychiatric problems. It is a self-rating scale with 90 items scored on 5-point scales ranging from 0 (not at all) to 4 (extremely). It consists of 9 clinical scales: for somatization, obsessive compulsive, interpersonal Ssensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. In addition, a global severity index is obtained by dividing the total score by the number of items. We examined the 90 questions that gauge all the dimensions of psychopathology. The Global Severity Index (GSI) indicates the level of psychological distress for each individual. The internal consistency is between 0.81 and 0.90. Higher score more than 60 means higher psychological distress.

Index of self esteem: it measures the degree, severity and magnitude of a client's problem in the area of self esteem²⁶. This 25 item self report inventory, rated on one to seven continuums yielding scores between 35 and 53 is average self esteem and higher scores over 53 indicating higher self esteem and lower scores below 35 indicating lower self esteem.

Statistical analysis: The data were analyzed statistically using the software Statistical Package for Social Science (SPSS) version 11²⁷. The rates of disordered scales in the subjects were determined, and descriptive statistics were used (frequencies, percentages) exploration of the relationships between variables was conducted using Pearson Chi square test for categorical variables. The association among the scales was evaluated by Pearson correlation coefficients. P value<0.05 (2 tailed) is considered significant and <0.01 is highly significant.

RESULTS

The study included 416 female adolescent. The students ranged from 15 to 18 years in age, with a mean age of 16.55±0.66. The social class distribution of the female students was high in 75% (312 student), middle in 17.3 % (72 student), and low in 7.7% (32 student).

Table (1) shows the prevalence of self body satisfaction where 28.8% show low satisfaction while high satisfaction was found in 39.4%. Table (2) shows the prevalence of psychiatric symptoms in the study group where high prevalence was found in psychoticism (21.2%), anxiety (20.2%) and paranoid ideation (20.2%).

Table (1): Results of self body image satisfaction questionnaire:

| Self body image satisfaction | Number | Percentage |
|------------------------------|--------|------------|
| High | 164 | 39.4% |
| Average | 132 | 31.7% |
| Low | 120 | 28.8% |

On comparing the students with low self body image satisfaction to those with high self body image satisfaction; it was found that somatization (30% vs. 12.2%, p=0.000), obsessive compulsive (23.3% vs. 8.1%,

p=0.000), anxiety (30% vs. 16.2%, p=0.002) and low self esteem (46.7% vs. 6.8%, p=0.000) were significantly more frequent in the students with low self body image satisfaction as shown in table 4. The correlation between psychiatric symptoms, eating disorder beliefs and self

esteem with self body image satisfaction shows that there was highly significant correlation between low body image satisfaction and; obsessive compulsive (r=-0.24, p=0.000), anxiety (r=-0.24, p=0.000) and self esteem (r=-0.53, p=0.000) as shown in table (5).

Table (2): Symptoms checklist 90 revised (SCL-90-R) in the study sample

| | Number | Percentage |
|--------------------------------------|--------|------------|
| Somatization | 72 | 17.3% |
| Obsessive Compulsive | 52 | 12.5% |
| Interpersonal sensitivity | 40 | 9.6% |
| Depression | 64 | 15.4% |
| Anxiety | 84 | 20.2% |
| Hostility | 100 | 24% |
| Phobic Anxiety | 36 | 8.7% |
| Paranoid Ideation | 84 | 20.2% |
| Psychoticism | 88 | 21.2% |
| High Global Sensitivity Index | 64 | 15.4% |

Table (3): Eating disorder beliefs and self esteem in the study sample

| | Number | Percentage |
|-------------------------|--------|------------|
| Eating disorder beliefs | | |
| ◇ Negative | 36 | 8.7% |
| ◇ Positive | 380 | 91.3% |
| Self esteem | | |
| ◇ High | 204 | 49% |
| ◇ Average | 136 | 32.7% |
| ◇ Low | 76 | 18.3% |

Table 4: Comparison of scores of SCL-90-R, Eating disorder beliefs & self esteem for Self body image satisfaction

| Self body image satisfaction | Low (n = 120) score <112 | Average and high (n=296) Score ≥112 | p value |
|---------------------------------|-----------------------------|--|------------|
| Symptoms checklist 90 revised: | | | |
| ◇ Somatization | 36 (30%) | 36 (12.2%) | 0.000 |
| ◇ Obsessive Compulsive | 28 (23.3%) | 24 (8.1%) | 0.000 |
| ◇ Interpersonal sensitivity | 12 (10%) | 28 (9.5%) | NS |
| ◇ Depression | 24 (20%) | 40 (13.5%) | 0.097 |
| ◇ Anxiety | 36 (30%) | 48 (16.2%) | 0.002 |
| ◇ Hostility | 36 (30%) | 64 (21.6%) | NS |
| ◇ Phobic Anxiety | 8 (6.7%) | 28 (9.5%) | NS |
| ◇ Paranoid Ideation | 28 (23.3%) | 56 (18.9%) | NS |
| ◇ Psychoticism | 28 (23.3%) | 60 (20.3%) | NS |
| ◇ High Global Sensitivity Index | 28 (23.3%) | 36 (12.2%) | 0.004 |
| Eating disorder beliefs | 18 (15%) | 18 (6.1%) | NS |
| Self esteem (low) | 56 (46.7%) | 20 (6.8%) | 0.000 |

Data are expressed as number (percent); NS=non-significant

Table (5): Significant correlations between SCL-90-R, Eating disorder beliefs & Self esteem with Self body image satisfaction scores (n=416):

| | Self body image satisfaction | |
|---------------------------------|------------------------------|---------|
| | r value | p value |
| SCL-90-R | | |
| ◇ Somatization | -0.15 | 0.002 |
| ◇ Obsessive Compulsive | -0.24 | 0.000 |
| ◇ Depression | -0.15 | 0.002 |
| ◇ Anxiety | -0.24 | 0.000 |
| ◇ High Global Sensitivity Index | -0.14 | 0.002 |
| Eating disorder beliefs | -0.11 | 0.025 |
| Self esteem | -0.53 | 0.000 |

DISCUSSION

In Western countries, it has been well documented that significant concerns about body weight and shape leading to dieting in order to be slim are present in preadolescent as well as in adolescent girls⁸. In Egypt and Arab countries however, there are few studies on eating attitudes and behaviors in pre-adolescent boys and girls²⁸⁻³⁰. Perceived body image dissatisfaction is an important component of a variety of prevalent health problems in females such as eating disorders, depression, obesity, and self esteem. Body image dissatisfaction refers not only to eating disorder beliefs but also to psychiatric psychopathology, excessive cognitively investment in one's physical appearance in defining one's sense of self³¹. The present study focuses on the potential consequences of such negative body evaluation in our society.

In the present study included a relatively homogenous sample, as all the participants were females, aging 15-18 years and they were rating themselves as high (75%) to middle (17%) social class and this results according to the scale we used²¹ as it

measures the level of social class according to education of subjects and their parents and the average family income and family index per room and electric and sanitary services. As shown in some of the studies, socioeconomic status did not emerge as a significant factor as in our study³². This may well be due to the effects of globalization and mass media on the attitudes and behaviors of young people irrespective of their socioeconomic status.

In our study, the rates of those who evaluated themselves as having low self body image satisfaction were 28.8% and this finding was similar to the rates observed from other Arab countries with rates ranging from 29.4% for Omani teenage girls²⁹ and 24.6% for secondary school girls in Saudi Arabia²⁸. However, past studies with other cultural groups found that over 80% of females were dissatisfied with their body⁴, and another study which reported that 68% of females and 57% of males in their Chilean sample were dissatisfied with their body size/shape³³. This difference suggested that girls may be experiencing more sociocultural pressures in relation to their body size and shape.

A total of 8.7% of 416 female secondary school students displayed negative eating beliefs as measured by EDBQ and This rate was concordant with the previous work which found that 11.4% of a population of secondary school girls in Cairo had negative eating beliefs³⁴, and the results of studies from Western societies, which have shown the rate of disordered eating attitudes to be 7% to 20% among female college students³⁵, and similar to the rates reported in Turkey were 6.1% and 9.9% respectively³⁶⁻³⁷, and in Japan it to was 5.4%³⁸. The background to these results is

an abrupt increase in dieting among non-obese people preoccupied with thinness³⁹.

Our study showed that there was significant correlation between students with low body image satisfaction and those with negative eating beliefs ($r=-0.11$, $p=0.025$). These findings suggest that incorrect self-body perception causes eating problems among girls. Analysis of the relationship between eating disorder beliefs, and self body image dissatisfaction, assessed by EDBQ, showed that core beliefs and schema were strongly related to self body image. This study provides a first step towards outlining a specific core belief and schema profile for those with high levels of eating disorders-related symptomatology. This was explained as prominent cognitive processes are involved in the internalization of the slender beauty ideal, development of beliefs that constitute a thinness schema and a tendency to compare one's weight and shape to the bodies of various other people, such as peers and celebrities⁴⁰. Thompson recommended programs to decrease these risk factors while increasing healthy attitudes and behavior related specifically to body image and to healthy eating and exercising.

Moreover, our study showed that adolescent females with low body image satisfaction had significantly higher levels of somatization (30% vs. 12.2%, $p=0.000$), obsessive compulsive (23.3% vs. 8.1%, $p=0.000$), anxiety (30% vs. 16.2%, $p=0.002$) and low self esteem (46.7% vs. 6.8%, $p=0.000$) compared to those with average and high body image satisfaction. These results were in agreement with the study which found more elevated lifetime rates of agoraphobia and higher scores in the somatization, obsessive-compulsive, anxiety, hostility, and psychoticism

dimensions of the SCL-90, in the studied group with negative body image and eating disorders⁴¹.

The present study showed a significant correlation between obsessive compulsive symptoms and low body image satisfaction ($r=-0.24$, $p=0.000$), several studies have often reported an association between obsessive-compulsive disorder (OCD) and eating disorders. The obsessive fear of gaining weight, extreme preoccupations with food and body image and an irresistible compulsion to binge and vomit have been seen as a manifestation of obsessive-compulsive symptom³². Also it was proposed that eating disorder is a modern variant of OCD in Western cultures⁴². It has been shown that OCD symptoms persist after recovery from bulimia nervosa (BN)⁴³. Recovered female patients with BN and anorexia nervosa (AN) have a greater perfectionism than controls and their most common obsessional target symptoms are the need for symmetry and ordering. A hypothesis that eating disorders should be included in obsessive-compulsive (OC) spectrum disorders was supported by the finding that the morbidity risk for OC spectrum disorders was significantly higher among the relatives of patients with eating disorders than comparison individuals⁴⁴.

There was also a significant correlation between low body image satisfaction and anxiety ($r=-0.24$, $p=0.000$). This finding was supported by reports of previous studies where they also found that high levels of body image dissatisfaction were associated with high levels of anxiety and negative affect particularly in females, and they concluded that body dissatisfaction was not only moderated by cognitive-rational evaluations of one's body size, but

also included a significant affective component. Thus, adolescents not only perceived a strong cognitive-rational discrepancy in their actual ideal body image, they also experienced a strong affective dissonance in their perceptions of body size⁴⁵.

It noteworthy that, there was significant correlation between low body image satisfaction and depression ($r=-0.15$, $p=0.002$), this was consistent with many researchers who focus on relationship between body dissatisfaction and depression. Previous studies found that weight dissatisfaction and concerns were associated with more depressive symptoms⁴⁶. Stice et al. developed a model describing the relationship between body dissatisfaction and depression in adolescent girls⁴⁷. Specifically, the “dual pathway model” proposes that elevated body mass index, body dissatisfaction and dieting lead to both depression and the development of eating disorder symptoms.

Our study explored a significant high prevalence of somatization in female adolescents with low self body image satisfaction (30% vs. 12.2%, $p=0.000$). Moreover, it was found that there was a significant correlation between somatization and low body image satisfaction, this was consistent with the results that investigated whether complaints of negative body image could be an indicator of psychiatric morbidity⁴⁸, also others found more elevated lifetime rates of agoraphobia and higher scores in the somatization, obsessive-compulsive, anxiety, anger hostility, and psychoticism dimensions of the SCL-90 as we mentioned before⁴¹.

Regarding the relationship between adolescent girl's body dissatisfaction and

self-esteem, our results showed highly significant correlation between low body image satisfaction and low self-esteem ($r=0.53$, $p=0.000$) in the present sample, this was consistent with previous results for adolescent which reported that self-esteem contributed to disturbed body image⁴⁹⁻⁵¹. In addition, this result was further confirmed that those suffering from body dissatisfaction and eating disorders were more likely those who were suffering from low self-esteem, utilize poor coping tactics, and have higher stress levels⁵¹. Further research should focus specifically on self-esteem, coping styles and stress as important risk factors in predicting eating disorder. Many studies have found that in children negative body image was correlated with poorer self-esteem and general dissatisfaction with life. This means that children, youth, and their communities will be healthier when those communities encourage the “five C's” of youth development: Competence, Connection, Character, Confidence, and Caring (Compassion)⁵².

Our study was subject to certain limitations. First, all evaluations were based on self-report measures. The use of self-report questionnaires is completely dependent on the cooperation and frankness of the subjects. However, it is often possible to obtain more accurate information about shape concerns and dieting beliefs and behaviors in this way than by interview methods, as girls are secretive about their eating habits due to the shame and guilt associated with the practice of weight control. With the assurance of anonymity, they might respond more frankly and admit their eating habits. Second, all participants were selected from a socially, economically, educationally homogeneous population and therefore, our samples are

not necessarily representative of young Egyptian women as a whole.

Third, the study design was cross-sectional. Therefore, any discussion of causality can only be tentative. There is an obvious need in the literature for more studies using a prospective or longitudinal design in order to explore whether, for example, self-esteem variations coincide with variations in body image dissatisfaction or whether one precedes the other. To date longitudinal studies in this area have been limited, including only three that have been concerned with the adolescent population^{7, 53-54}. Although these studies have highlighted the importance of variables such as body image dissatisfaction as being predictive of future eating problems, unfortunately these studies in themselves have been limited due to small sample size (e.g. $N=87$)⁵³, restricted socioeconomic status (e.g. white upper-middle-class girls)⁷, or short follow-up.

CONCLUSION

In this study around one-third of the secondary school girls in Cairo, Egypt have Body image dissatisfaction, there were significant relationship with obsessiveness, somatization, depression and anxiety. Negative eating beliefs and low self-esteem were also correlated with disordered body image among adolescents. Psychiatric researches should be more concerned about issues of body image and concurrent psychiatric morbidity and aim to develop preventative as well as therapeutic treatment methods. Awareness about the possible risk factors should help authorities to plan preventive strategies including efforts to reduce societal, peer and cultural pressures that result in thin body preoccupation and internationalization of the thin ideal among adolescent girls. In

addition, health care providers need to help them attain a realistic, positive perception of their weight in order to prevent depression and lowered self-esteem. There are still few studies in developing societies and in the rural areas of these societies on the characteristics and frequencies of disordered eating behavior. Further data from developing countries will make it easy to understand the cultural aspect of developing an eating disorder and to compare the societies with each other.

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