



A Study on the Prevalence of Eating Disorders and its relationship to Anxiety in preschool children of Bandar Abbas

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ABSTRACT: This study aimed to assess the prevalence of eating disorders and its relation to preschool children's anxiety in Bandar Abbas. In this study, descriptive- correlational method has been used. The population of the research is all preschool children of Bandar Abbas in 2011-2012 academic year, including 4370 subjects among whom 222 children as the sample were examined by random cluster sampling. Data collection tool was CSI (CSI-4) questionnaires that were carried out on the research sample after determining the validity and reliability of the research. The research results showed that among eating disorders selective eating is more prevalent among preschool children. There is a significant relationship between anxiety and eating disorders in preschool children. In addition, anxiety, separation anxiety, and eating habits in children predict 33% of the criterion variable variance of eating disorders.

Keywords: Eating disorders, anxiety, preschool

INTRODUCTION

In recent years, anorexia, bulimia, selective eating, pica, restrictive eating, and dozens of other disorders in the eating dimension are the cases that are repeatedly heard from preschool children's mothers. The important point in this debate is the profound effects that the manner of children's eating has on the other dimensions of their mental and physical growth.

Changes in nutritional status and dietary habits and decreased mobility are the main reasons of the increase in obesity statistics. Eating has deep cultural and personal meanings for people that show this human behavior is influenced by cognitive, environmental, biological and emotional variables¹.

In today's world the issue of nutrition and eating is the important aspect of public health and it aims to provide necessary physical condition in terms of growth and development of organisms, human mobility and efficiency in social life. Furthermore, obesity has become an important and challenging issue. Obesity among children as well as adolescents is increasing.

Some studies have shown that obese individuals may show more damage in cognitive functions such as reaction time, vigilance and attention, immediate recall

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of words, delayed recall, selective attention, processing speed, and executive functions of implicit memory, semantic memory, and spatial abilities ².

Separation anxiety disorder is a clinical syndrome characterized by severe anxiety when separated from those to whom the child has important dependency or when separated from home and other familiar environments.

In the fourth category of Diagnostic and Statistical Manual of mental disorders, in childhood and adolescence anxiety disorders, only separation anxiety disorder is mentioned ³.

The research results of ⁴ that had been done on female students in Kerman, reported eating disorders 8.6 percent among which 3.8 is related to anorexia nervosa and 2.1 is related to bulimia nervosa and 7.1 is related to the third type of eating disorder in this study.

Given that eating disorders can lead to life-threatening complications in terms of nutrition, medicine, and even psychology, and with regard to the observation of this disorder in all socioeconomic and ethnic groups, investigating it is very important. Eating disorders cognitive - behavioral theories (such as Fairburn, Cooper and Schiffrin) emphasize on the role of attitudes and beliefs about weight, shape and eating in the formation and continuation of eating disorders and their symptoms⁵. These beliefs are generally reflected in thoughts about weight, shape and eating. The studies of Cooper, Cohen –Toy in Wales and Towhee and Rose confirm the importance of these beliefs in the appearance of eating disorders. However, negative automatic thoughts and undesirable beliefs about weight and shape may provide suitable cognitive explanations for eating disorders. These attitudes have an importance and specific role in eating disorders. Also Fairburn et al. research, Saadatmand and Chimeh suggested a relationship between eating disorders such as bulimia and depression and anxiety in children ^{6,7}.

MATERIALS AND METHODS

In this study, descriptive- correlational method has been used. The population of the research is all preschool children of Bandar Abbas (4370 subjects). The study sample included 222 children who were selected from four preschool centers in district one and three preschool centers in district two of Bandar Abbas by random cluster sampling. Furthermore, the sample size was determined based on the table of Krejcie and Morgan.

In this study, two questionnaires of eating disorders and nutrition pattern in the family were used to collect information. Due to the limited measurement tools, of eating disorders and nutrition pattern in preschool children in Iran society, the researcher was forced to make the appropriate tool of this scale. First, based on the classification of DSM-IV-TR in order to identify problems and issues related to eating in children 48 questions was developed that were reduced to 45 questions after factor analysis. Scale of the questionnaire was three value scale and was graded to no (0), sometimes (1) most (2). Also, 80 questions designed to measure family nutrition pattern that were reduced to 55 questions after factor analysis.

After determining the questionnaires apparent validity using 15 clinical psychologists' opinion, they were performed on the sample. Then the process of factor analysis were applied on the completed questionnaires and after extracting factors related to eating disorders and family nutrition patterns, final analysis was performed according to the research hypotheses. It should be noted that the total reliability coefficients and the relevant factors are shown in Table 1:

Table 1. Reliability Coefficients of eating disorders questionnaire

Factors	Alpha Coefficient
Loss of appetite and anorexia nervosa	0.27
Increased appetite and bulimia nervosa	0.65
Selective eating	0.69
Restrictive eating and fear of eating	0.71
Eating disorders total grade	0.71

In order to conduct the present study and execute the questionnaires, first to obtain letter of introduction from Islamic Azad University of Arsanjan, the researcher referred to Bandar Abbas Department of Education. Then the permission was achieved from concerned officials in the Department of Education, and the researcher went to the pre-school Centers of the sample. After justifying and giving essential explanations about the research and its purpose, the questionnaires were given to the teachers and they were asked to deliver the forms to parents and asked them to complete them and return back to the researcher.

The research findings are presented in two parts of descriptive and inferential statistics:

To analyze the data in the present paper, in the first question descriptive statistics, including mean, standard deviation, weight average, frequency, frequency percentage, was applied and in the second to fourth questions Pearson's correlation coefficient was used and in the fifth question the independent t-test was utilized. Finally, for the sixth question Stepwise multiple regression was used. The data analysis was performed using SPSS software.

RESULTS

Tables 2 and 3 present eating disorders of the studied children

Table 2. Statistical indices of eating disorders variables

Variable	Mean	Weight Average	Standard Deviation	Lowest	Highest
Loss of appetite	5	0.53	3.33	0	18
Increased appetite	6	0.62	2.83	1	15
Selective eating	6	0.81	2.71	0	13
Restrictive eating and fear of eating	10	0.61	4.84	0	21

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Eating disorders	28	0.63	9.52	8	56
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It can be seen that selective eating has the highest average (weight average) of 0.81 among other disorders. The lowest average is related to loss of appetite and anorexia nervosa which is 0.53. But ultimately all components of eating disorders (according to average value of 1) have low average and it shows that these children are normal.

Table 3. Distribution of eating disorders frequency

Variable	Classification	Frequency	Frequency percentage
Loss of appetite	Not Disorder	197	88.7
	Disorder	25	11.3
Increased appetite	Not Disorder	191	86
	Disorder	31	14
Selective eating	Not Disorder	191	86
	Disorder	31	14
Restrictive eating and fear of eating	Not Disorder	183	82.4
	Disorder	39	17.6
Eating disorders	Not Disorder	187	84.2
	Disorder	35	15.8

As the above table shows the components of restrictive eating and fear of eating with the frequency of 39 and 17.6 frequency percentage has the highest frequency. The lowest frequency is related to the component of loss appetite with the frequency of 25 and 11.3 frequency percentage.

To examine the relationship between eating disorder and anxiety in preschool children the Pearson correlation coefficient was used. The results are presented in Table 4.

Table 4. Pearson correlation test to determine the relationship between eating disorders and anxiety

Variable	No.	Mean	Standard Deviation	Correlation coefficient with anxiety	Significance level
Loss of appetite and anorexia nervosa	222	5.79	3.33	0.35	0.001
Increased appetite and bulimia nervosa	222	6.23	2.83	0.31	0.001
Selective eating	222	6.47	2.71	0.31	0.001
Restrictive eating and fear of eating	222	9.8	4.84	0.34	0.001
Eating disorders total grade	222	28.21	9.52	0.48	0.001

There is a significant positive correlation between anxiety variable and the components of loss of appetite and anorexia nervosa ($r=0.35$ and $P < 0.001$), increased appetite and bulimia nervosa ($r=0.31$ and $P < 0.001$), selective eating ($r=0.31$ and $P < 0.001$), restrictive eating and fear of eating ($r=0.34$ and $P < 0.001$) and

eating disorders ($r=0.48$ and $P <0.001$). This means that the higher the level of anxiety, the more eating disorders in children.

DISCUSSION

The results showed that selective eating has the highest average (weight average) of 0.81 among other disorders. The lowest average is related to loss of appetite and anorexia nervosa which is 0.53. But ultimately all components of eating disorders (according to average value of 1) have low average and it shows that these children are normal. Also, the components of restrictive eating and fear of eating with the frequency of 39 and 17.6 frequency percentage has the highest frequency. The lowest frequency is related to the component of loss appetite with the frequency of 25 and 11.3 frequency percentage. Indeed, these findings suggest the natural rate of eating disorders in preschool children in the study population. It can also be the answer for parents and teachers who frequently complain of children's eating condition. In other words, the complaints from parents about the amount of their children eating can be due to their extra sensitivity as well as being a sign of exaggerating children's issues in this field by parents and others rather than reality. According to the results listed in Table 3-4, there is a significant positive correlation between anxiety variable and the components of loss of appetite and anorexia nervosa ($r=0.35$ and $P <0.001$), increased appetite and bulimia nervosa ($r=0.31$ and $P <0.001$), selective eating ($r=0.31$ and $P <0.001$), restrictive eating and fear of eating ($r=0.34$ and $P <0.001$) and eating disorders ($r=0.48$ and $P <0.001$). This means that the higher the level of anxiety, the more eating disorders in children.

The research findings are consistent with the results of Chimeh⁶. In explaining the results it can be said that children with sensitive characteristics are more susceptible to anxiety. They create strange or even irrational links between events in their minds that lead to anorexia or perhaps sometimes lead to frightful avoidance of certain foods. Many of them appeal to eating whenever they encounter disturbance and these behaviors give them little comfort.

This trend will continue and child encounters some problems in the way of eating and wrong behaviors on this issue. Findings show a relationship between mental states of children and behaviors associated with their nutrition. In fact, the more problematic is the psychological condition of children, the more issues are on how they eat. So parents and teachers take note that if they tend to decline children's problems in this area, they should identify and consider the factors affecting their mental health.

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