Predicting Eating Disorders based on Quality of Life among Normal and Patient Women in Mahabad

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ABSTRACT  The aim of the present research was to predict eating disorders based on quality of life in normal and patient women in Mahabad. There were selected 100 women with eating disorder and 100 normal women by available sampling. Then they filled scales of eating disorder and quality of life questionnaire. Based on results of Pearson’s Correlation Coefficient, there was a significant relationship between quality of life with anorexia nervosa (r=-0.19), bulimia nervosa (r=-0.242), body dissatisfaction (r=-0.18) and eating disorder (r=-0.261). Results of regression analysis showed that quality of life effect on eating disorder was -0.30. In the research, there was a significant relationship between quality of life with bulimia nervosa (r=-0.244) and body dissatisfaction (r=-0.23) in normal women. However, there was no significant relationship between anorexia nervosa and eating disorder in normal women. By comparing mean of eating disorder scores and quality of life in both normal and patient women, results of independent t statistical test showed that mean of clinical group was more than normal group significantly. Eating disorder can affect quality of life of normal and patient people.

KEYWORDS  Eating Disorder, Anorexia, Bulimia Nervosa, Body Dissatisfaction, Quality of Life.

INTRODUCTION  In recent years, "eating disorders" have been dramatically increased especially in adolescent girls of Western countries (Curtis AJ, 1963; Costa et al., 2008). According to epidemiological studies, there is occurred 95% of eating disorders in women (Espmdola & Blay, 2006). In the revised text of Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV-TR, 2000) anorexia nervosa and bulimia nervosa have been identified as the most important eating disorders. Anorexia nervosa syndrome is characterized by three main criteria: deliberate starvation substantially, continuous desire for thinness and obesity phobia as well as associated signs and symptoms of starvation and fasting. Anorexia nervosa is a defined disorder that person avoids at least of natural weight, fears weight gain severely and has mistaken understandings about
his/her body and its form. Mravesk (1897) defines anorexia nervosa with the sentence "hunger stimulation that is increased to pain level." (Tury et al., 2010).

Anorexia nervosa is more common in women than men and usually begins in adolescence. There have been proposed hypotheses of psychological disorder in young women with the disorder, which based on the hypotheses; there are problems to pass from girl step to woman step. Psychological issues related to frustration and independence difficulties have been brought up as important factors to develop this disorder. Bulimia nervosa symptoms may be appeared as a separate disorder (bulimia nervosa) or a part of anorexia nervosa. Patients with anorexia nervosa or bulimia nervosa have problems with their weight, food and body shape increasingly. Anorexia nervosa outcome is different from spontaneous recovery to upward and downward movement, and even death (Kaplan & Sadock, 2007).

Bulimia nervosa has been described as an eating along with inappropriate methods to prevent weight gain. Social harassment or physical discomfort –i.e. abdominal pain or nausea- ends up bulimia nervosa, and then after eating, the person has feelings of guilt, depression or hates himself. In order to prevent weight gain, people with bulimia nervosa do recurrent compensatory behaviors such as purging (intentional vomiting, frequent using laxatives or diuretics), fasting or excessive exercise. Unlike patients with anorexia nervosa, the patients may maintain their normal weight (APA, 2000).

Young and adolescent people, especially females, pay special attention to their body weight and shape because of many factors including cultural, social and racial factors (Jones et al., 2001). Raising thinness provides a field for body dissatisfaction and eating disorders (Blowers et al., 2003). Body dissatisfaction is a main belief and appropriate sign for eating disorders in long-term (Vanderwal & Thelen, 2000). Some factors such as eating, concerns about body weight, diet, obsession to eat food and bulimia have negative relationship with components of physical and mental health as well as quality of life (Lobera & Rios, 2011).

People with eating disorders that suffer from this disease for years, will be encountered with disorders in many situations of daily life including social, work and family fields and even in leisure times; thus there is evident important principle of health related with quality of life to investigate treating sustainable eating disorders (Mitchison et al., 2013). Quality of life means prevalence and score of life about some comparative criteria that is discussed by most people in a special society (Frisch MB, 2006).

People with eating disorders show considerable disorders in physical, mental and social performance. Many studies have dealt with disorder in quality of life among patients with eating disorders by importance of negative effects of eating disorders. Patients with bulimia nervosa or eating disorders show a considerable disorder to investigate quality of life in mental performance. Therefore, it seems that laxative behaviors and bulimia pathology can predict disorders in quality of life. In addition, some researchers have found a relationship between severity of most symptoms in eating disorders and lower quality of life (Lobera & Rios, 2011). Researches show that patients with eating disorders have lower quality of life and this disorder is increased by decreasing disease (Dejong et al., 2013). According researches, patients with eating disorders have lower quality of life than normal people, and sometimes, mental aspect of quality related with health is the most involved aspect. Furthermore, there is no difference in health-related quality of life among groups with eating disorders (Baiano et al., 2014).
Consequently, the obtained results by researchers showed that eating disorders have a significant impact on quality of life. People with eating disorders report worse quality of life considerably than normal people in all fields of physical and mental health. This lower quality of life can result to eating disorder behaviors, symptoms severity, depression and anxiety (Leung et al., 2013). As showed in researches, if there is a disordered trend to adolescent eating, their health-related quality of life can be damaged (Hosseinzadeh Asl & Poursharifi, 2011). This research is necessary because eating disorders affect people's physical health and quality of life. It is clear that investigating disorder factors lead to the belief that eating disorders overshadow human health quality of life and threaten his physical health. The aim of the present research is “to predict eating disorders based on quality of life in normal and patient women in Mahabad”, and it tries to explore new studies and provide them for researchers by investigating all factors affecting eating disorders and quality of life to treat the disease.

MATERIALS AND METHODS

Plan of the present research is predictor correlation type. Statistic populations of the research were 100 ordinary women volunteered to participate in the study and 100 women with eating disorders including bulimia nervosa and anorexia nervosa referring to Mowloodi and Anahid feeding clinics that they were selected by diagnostic interview (based on Criteria of Diagnostic Statistical Manual, version IV). To perform plan of the research, participants were firstly informed about general objectives. To count results, there were provided Questionnaire of Eating Disorders of Garner et al and Ware & Sherbourne’s Quality of Life Questionnaire for participants.

Tools for collecting data in this research were

a) **The Eating Disorder Inventory (EDI)**

The Eating Disorder Inventory is a 64-item scale for measuring psychological characteristics and symptoms of anorexia and bulimia, which was provided by Garner, Olmsted and Polivy (1983). The inventory is one of main tools of self-descriptive that is used for eating disorders. It is a standard tool that not measures aspects of eating disorders’ symptoms, but measures character fundamental pathology. It consists eight sub-scales, which can be divided into two important clinical aspects: 1) eating perceptions; and 2) characteristics of self-disorder function. Its sub-scales include: 1) inefficiency; 2) maturity fears; 3) perfectionism; 4) interpersonal distrust; 5) tend to leanness; 6) inward awareness; 7) bulimia; 8) body dissatisfaction. In the present research, we used sub-scales of eating disorder symptoms only, i. e. trend to thinness, bulimia and body dissatisfaction. There was considered grading spectrum 6-option (from never to always) for each question. This test is one of the best scales for eating pathology. It has a positive correlation with clinical classification, diagnostic reliability and convergent. It is also correlated with other psychometric measures and has a good diagnostic reliability (0.85). In their research, Garner et al (1983) reported internal correlation of the inventory sub-scales between 0.30-0.58. They also identified 0.80 for Cronbach’s Alpha. The calculated Cronbach’s Alpha in Iranian version is 0.70 for bulimia and 0.76 for total scale (Shayeghian Z, 2008).

b) **Ware and Sherbourne’s Quality of Life Questionnaire**

Quality of life questionnaire (SF=36) has proven its efficiency in applications such as clinical works, assessing health policies and researches and studies about general
population. The questionnaire contains a form with 36 items that was designed by Ware & Sherbourne (1992). Its credibility and reliability have been studied in different groups of patients. The measured concepts by the questionnaire are not devoted to specific age, group or disease (Montazeri et al., 2005). Tools to assess quality of life have been provided by International Quality of Life Organization and include eight fields: physical functioning and role, general and mental health, vitality, social performance and emotional role. Questions were scaled from zero to five. Scores 0 and 5 are for the worst and best possible situation for each individual respectively. Total scores of questions were arranged from 0 to 100. Cut-off point is considered based on answers patients’ about quality of life as "desirable" (between 75th percentile and above), "somewhat favorable" (between 25th and 75th percentile) and "undesirable" (less than 25th percentile). In Iran, scale of internal consistency has been obtained in range of 0.77-0.90. There has been reported 0.75 for reliability test in retest way with interval of two weeks (Shahandeh & Aghayousefi, 2013). After collecting questionnaires, raw data were analyzed by SPSS-16 software and by conducting correlation and regression analyses’ tests.

RESULTS

There was identified 27.86±7.59 and 27.12±9.74 years old as mean age of clinical and normal women respectively. Among women referring to feeding clinics, 72% came to the clinics for weight loss and 28% for weight gain. Generally, mean of eating disorders were 23.54±12.03 and 15.39±11.5 for clinical and normal groups respectively. Mean of anorexia nervosa was 9.8±5.84 and 6.14±5.28 for clinical and normal groups respectively; meanwhile, mean of bulimia nervosa was 2.68±13.72 and 2.25±3.15 for clinical and normal groups respectively. Clinical and normal groups obtained mean of 62.24±15.64 and 66.46±16.06 for quality of life respectively (Table 1).

Results of Pearson’s correlation showed that there is a significant relationship between quality of life with anorexia nervosa (r= -0.19), bulimia nervosa (r= -0.242), body dissatisfaction (r= -0.18) and eating disorder (r= -0.261) among clinical women group. The results also showed that there is no significant relationship between quality of life with bulimia nervosa (r= -0.244) and body dissatisfaction (r= -0.23) among normal women (Table 1). Results of multivariable regression showed that as $R^2$ represents the coordinated identification coefficient, quality of life have considered variance 0.05 for eating disorder (Table 2).

Therefore, as $\beta$ shows effect of predictor variable in criterion, anger and quality of life have been strong variables for sharing in prediction of eating disorder (P. 0.019 and $F_{(1 \text{ and } 98)}= 4.121$) (Table 2). Mean scores of quality of life in normal women group is higher than clinical women group (p< 0.05), and mean scores of eating disorder in normal women group is lower than clinical women group (p< 0.001) (Table 3).
Table 1. Mean and standard deviation of predictor and criterion variables among normal and patient women as well as relationship between predictor and criterion variables in both groups.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Clinical women group</th>
<th>Normal women group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Predictor variable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality of life</td>
<td>62.24</td>
<td>15.6</td>
</tr>
<tr>
<td>Eating disorder</td>
<td>23.54</td>
<td>12.03</td>
</tr>
<tr>
<td>Body dissatisfaction</td>
<td>11.15</td>
<td>6.58</td>
</tr>
<tr>
<td>Anorexia</td>
<td>9.8</td>
<td>5.84</td>
</tr>
<tr>
<td>Bulimia</td>
<td>2.68</td>
<td>3.72</td>
</tr>
</tbody>
</table>

Table 2. Summarize of multivariable regression analysis results with arrival method to predict bulimia based on quality of life.

<table>
<thead>
<tr>
<th>Predictor variable</th>
<th>Nonstandard coefficients</th>
<th>Standard coefficients</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B volume</td>
<td>Standard error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Fixed volume)</td>
<td>36.052</td>
<td>4.811</td>
<td>----</td>
<td>7.494</td>
</tr>
<tr>
<td>Quality of life</td>
<td>-0.201</td>
<td>0.075</td>
<td>-0.261</td>
<td>-2.681</td>
</tr>
</tbody>
</table>

(Adj. RS= 0.059, RS= 0.068 and R= 0.261)

Table 3. Independent t test to investigate difference between quality of life and eating disorders in normal and clinical women groups.

<table>
<thead>
<tr>
<th>Indicators Variables</th>
<th>Groups</th>
<th>Mean</th>
<th>F</th>
<th>Significance level</th>
<th>Calculated t</th>
<th>Degree of freedom</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eating disorder</td>
<td>Clinical</td>
<td>23.54</td>
<td>0.657</td>
<td>0.419</td>
<td>4.89</td>
<td>198</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Normal</td>
<td>15.39</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality of life</td>
<td>Clinical</td>
<td>62.24</td>
<td>0.525</td>
<td>0.470</td>
<td>-1.89</td>
<td>198</td>
<td>0.05</td>
</tr>
<tr>
<td></td>
<td>Normal</td>
<td>66.46</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DISCUSSION AND CONCLUSION

The aim of the research was to predict eating disorders based on quality of life in normal and patient women in Mahabad. For this purpose, there were used statistical tools such as percentage, frequency, mean, standard deviation, correlation and regression with simultaneous method.
Results of Pearson’s correlation showed that there is a significant relationship between quality of life with anorexia (r=-0.19), bulimia (r=-0.242), body dissatisfaction (r=-0.18) and eating disorder (r=-0.261) in clinical women group and quality of life effect on eating disorder was -0.30 based on regression analysis. This is consistent with the obtained findings by Lobera & Rios (2011), DeJong et al (2013), Baiano et al (2014), Leung, Ma & Russell (2013), and Hosseinzadeh Asl & Poursharifi (2011). In explaining these findings, it can be said that people with eating disorders avoid attending social, have problem in interpersonal relationships and their quality of life will be disordered. Results of findings showed that people with eating disorders have lower quality of life than normal people.

In the research, there was a significant relationship between quality of life with bulimia nervosa (r=-0.244) and body dissatisfaction (r=-0.23) in normal women. However, there was no significant relationship between quality of life with anorexia nervosa and eating disorder in normal women. This is not consistent with the obtained findings by Lobera & Rios (2011), DeJong et al (2013), Baiano et al (2014), and Leung, Ma & Russell (2013) about relationship between quality of life with body image and bulimia in normal people. In explaining these findings, it can be said that negative body image can lead to the damaged quality of life in both normal people and persons with eating disorder.

By comparing mean of eating disorder scores and quality of life in both normal and patient women, results of independent t statistical test showed that mean of clinical group was more than normal group significantly. This is consistent with the obtained findings by DeJong et al (2013), Baiano et al (2014), and Leung, Ma & Russell (2013) about lower quality of life for people with eating disorder in compared with normal people. In explaining these findings, it can be said that people with eating disorders have problem with their physical and mental health because of their mental involvement about their body and forms. These results to disorder their quality of life.

Based on the present findings, we can conclude that all eating disorders have essential relationship with occurring disorders in quality of life. Self-reporting of research tools can be considered as limitation of the present research. Since there are no exact criteria to study “unspecified eating disorder”, there was excluded the aspect of eating disorder in the research, and two other aspects, namely mental anorexia and bulimia were examined. The research was conducted on referring people to feeding clinics and and by using available sampling. Therefore, it should be taken sufficient accuracy in generalizing the results.

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REFERENCES


