



Original Article

Comparing emotional disturbances and quality of life in couples with attention-deficit and hyperactivity disorder and ordinary couples

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Abstract

Introduction: Definitive diagnosis of Attention Deficit-Hyperactivity Disorder (ADHD) in adults is challenging because many of the symptoms of ADHD overlap with other disorders and little research has been done on ADHD couples. Therefore, the present study was conducted to compare emotional disturbances (anxiety, stress and depression) and quality of life in couples with ADHD and ordinary couples.

Materials and Methods: In this causal-comparative study, out of all ADHD and normal couples in Mashhad, 87 cases were selected. Barkley Adult ADHD Rating Scale-IV (BAARS-IV) was used for diagnosis of ADHD along with clinical interview. The participants fulfilled Depression, Anxiety and Stress Scale (DASS), and Marital Relationship Quality Scale (RDAS). Data were analyzed by SPSS software and multivariate analysis of variance (MANOVA).

Results: Emotional disturbances (anxiety, stress and depression) showed a significant difference between the two groups. In other words, the levels of anxiety, depression and stress in ADHD couples were higher compared to ordinary couples ($P < 0.001$). But regarding the quality of the life and relationship and its components (marital agreement, marital satisfaction, marital cohesion), there was no significant difference between the two groups ($P > 0.05$).

Conclusion: This study showed that couples with ADHD suffer from emotional disturbances (anxiety, stress and depression) more than the ordinary couples.

Keywords: Adult ADHD, Anxiety, Depression, Quality of life, Stress

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Introduction

Today there is a consensus that Attention Deficit Hyperactivity Disorder (ADHD) often continues till adulthood with an approximate prevalence of 1.2 to 2.8 (1). According to the American Psychological Association (2013) report, adults with ADHD are more at risk for

other psychiatric disorders and emotional disturbances such as anxiety, stress, and depression (2).

In addition, studies show that people with ADHD are at risk for misdiagnosis of depression and anxiety, and depression and anxiety maybe even the first manifestation of

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the disease in these people, which causes many of these patients to go undiagnosed (3-5).

The correlation between ADHD and emotional disturbances (anxiety, stress, and depression) is well documented in the literature of children and adults, but what is unclear is the presence of these disorders in couples affected by ADHD that can affect the quality of their relationship and life. The quality of marital relationships includes various dimensions such as compatibility, satisfaction, happiness, cohesion, and commitment (6). Consequences of good marital quality include good mental health, high marital satisfaction, physical health, and self-evaluation; furthermore, depression and symptoms of mental illness are fewer (7-9). In other words, marital quality affects people's mental and physical health in marriage and cohabitation and their relationships outside and inside the family (10). In comparison, a low-quality marital relationship is associated with several significant physical and mental health problems (11-13).

Researches show that ADHD in adults predicts poorer social functioning in friendships and romantic relationships (14,15), and adults with ADHD with significant symptoms of this disorder understand their romantic relationship less than the people without ADHD (16) and are less satisfied with their relationship (14). Results reported in Williamson's and Johnston's research show that men with signs of hyperactivity are more likely to report negative performance in their marital relationship (17).

In some other studies that examined the relationships of the hyperactive person partner, they found that the spouses of people with ADHD have less intimacy and satisfaction than the spouses of people without ADHD (15,18). Moya et al. also found in a study that Adult Attention-Deficit/Hyperactivity Disorder is associated with problems in intimate relationships and conversational skills that can lead to conflict, boredom, and a decrease in marital satisfaction in these individuals and their spouses (19).

Based on the results of a study on married couples, one of whom has ADHD, the affected person reported weaker family functioning and marital adjustment and is at a lower level in terms of communication, emotional participation, roles, and problem-solving. In the case of spouses, 69% reported that adult

behavior with ADHD has disrupted marital function in one or more areas, including overall family organization and time management, parenting, and communication (19). In general, research results show that ADHD increases the risk of marriage and divorce problems (20).

Given that ADHD is a relatively common disorder in our country, few studies have been done on adults - especially couples with ADHD in emotional disturbances and quality of life.

According to a study in Iran, marital satisfaction in attention-deficit/hyperactivity disorder is less desirable than in healthy couples. In other words, ADHD couples experience less marital satisfaction (21). Furthermore, in another study, depression is higher in people who had ADHD in their childhood or adulthood. In other words, depression is common in people with ADHD in their adulthood or suffering from this disorder in childhood (22).

As mentioned, due to the gaps and shortcomings of research on ADHD couples, especially in our country, and because the success in the diagnosis and treatment of couples with ADHD is a challenge (because the mechanisms of compensation and secondary chronic frustration to dysfunction in these individuals cause different symptoms in children and adults (23) and increase in the awareness of the related therapists in early diagnosis of this disorder will have a positive effect on the quality of life of adults affected by the disorder, the present study was conducted to compare emotional disturbances (anxiety, stress, and depression) and relationship quality in ADHD and ordinary couples.

Materials and Methods

The present study was a causal-comparative that compared emotional disturbances (anxiety, stress, and depression) and relationship quality in ADHD and ordinary couples. The statistical population included all normal couples and ADHD couples in Mashhad city. Due to the nature of the present research method, and since in comparative studies a minimum sample size of 30 people is recommended (24), considering the number of research variables, 29 couples whom one or two of them had ADHD with 58 ordinary couples were purposefully selected as a sample. In order to observe the ethical considerations of the research, the researcher explained the objectives of the research to the participants and while stating that the participation in the research will be voluntary

and with their full and informed consent, assured them that the information collected will be used only in line with the purpose of the research confidentially.

The Ethics Committee of Ferdowsi University of Mashhad approved the present study (Ethics Code: IR.UM.REC.1397.030). Therefore, inclusion criteria in research in the first group (ADHD couples), including having ADHD diagnosis criteria according to the Barkley Adult ADHD rating scale (BAARS-IV), age range 20 to 45 years, was informed and written consent to participate in the study.

Research instrument

A) Barkley Adult ADHD Rating Scale (BAARS-IV): The fourth edition of the Barkley Adult ADHD rating scale is a self-report tool that includes 30 questions and applies to people aged 18 to 70 years. In this tool, four subscales are measured through 27 questions which are: Attention Deficit (9 questions), hyperactivity (5 questions), impulsivity (4 questions), and Sluggish Cognitive Tempo (9 questions). In addition, the age of onset of signs of disorder and quality of activity in different situations are analyzed through the final three questions.

Barkley reported Cronbach's alpha coefficient for the whole scale as 0.91 and the subscales of attention deficit, hyperactivity, and impulsivity as 0.90, 0.77, and 0.80, respectively. The test-retest reliability coefficient was 0.75 for the whole scale and 0.66, 0.72, and 0.76 for the attention deficit, hyperactivity, and impulsivity subscales.

B) Depression, Anxiety and Stress Scale (DASS): It was prepared by Lovibond and Lovibond (1995); and is a set of three self-report scales to assess emotional disturbances states in depression, anxiety, and stress. Emotional disturbances in depression, anxiety, and stress consist of 21 questions and three subscales. Each of the DASS subscales consists of 7 questions. The final score of each one is obtained by summing the scores of the related questions. Any question is scored from Zero (does not apply to me at all) up to 3 (absolutely applies to me).

Antony, Bieling, Cox, Enns, & Swinson reported the alpha coefficient for stress, depression, and anxiety 0.97, 0.92, and 0.95, respectively. Also, the results of calculating the correlation between the factors in their study indicate a correlation coefficient of 0.48 between the two factors of depression and

stress, the correlation coefficient of 0.53 between anxiety and stress, and the correlation coefficient of 0.28 between anxiety and depression (25). The validity and reliability of this questionnaire in Iran have been evaluated by Samani and Jokar, who reported the test-retest reliability of 0.80, 0.76 & 0.77 for the Depression, Anxiety and Stress Scale, respectively, and Cronbach's alpha for the Depression, Anxiety and Stress Scale 0.81, 0.74 & 0.78 respectively.

To study the validity of this scale, the statistical methods of confirmatory factor analysis and principal component analysis were used. The numerical value of KMO is equal to 0.9012, and the X² index in the Bartlett Test of Sphericity is equal to 3092.93, which was significant in level 0.0001 and indicated adequacy of sample and variables selected for factor analysis. Based on the factor analysis performed with Varimax rotation on the items of the questionnaire and by using the criteria of eigenvalues and scree slope, three sub-scales were extracted: depression, anxiety, and stress, which are in line with the main DASS test factors (26).

C) The Marital Relationship Quality Scale (RDAS): It was made by Busby, Christensen, Crane and Larson (1995). The main form of this scale has been made by Spanier (1979) and based on Lewis and Spanier's theory (1979) about the quality of marital relationships (27). This questionnaire has 14 questions and three subscales (agreement, satisfaction, and marital cohesion) stored on a 6-point scale from 0 to 50. The total score of three subscales shows the Marital Relationship Quality, and high scores indicate a higher quality of marital relationship.

The three-factor structure of the questionnaire in its confirmation and validity has been reviewed and confirmed by confirmatory factor analysis (28). The reliability of the questionnaire in Cronbach's alpha method has been reported in another study from 0.80 to 0.90 (29). In Iran, the internal consistency reliability coefficients, including Cronbach's alpha and questionnaire compilation, have been reported satisfactory with a score of 0.92 and 0.89, respectively. Also, the convergent validity coefficients of marital quality with the Marital Satisfaction Questionnaire, the Couples Correlation Assessment Questionnaire, and the Dyadic Adjustment Scales were obtained scores of 0.39, 0.36, and 0.33, respectively, which is significant at the level of $P < 0.001$

(30). After collecting the data, they were entered into SPSS software and analyzed by multivariate analysis of variance (MANOVA).

Results

In the present study, out of 87 participants, 62 people (72%) were female, and 23 people (27.1%) were male.

Among them, 36 people (41.9%) had bachelor's degrees, 20 people (23.3%) had high school diplomas, 14 people (16.3%) had master's degrees, four people (4.7%) had junior high school diplomas, and two of them (2.3%) had a Ph.D. degree. Also, demographic findings showed that 62 people (77.5%) were employees

and 18 people (22.5%) were not employees. In addition, the mean age of the subjects was 21.75. Emotional disturbances (anxiety, stress, and depression) and the quality of the relationship in the two groups of ADHD couples and normal couples using the Depression, Anxiety and Stress Scales (DASS) and the quality of the marital relationship (RDAS) were assessed and completed by the subjects. Mean, the standard deviation of emotional disturbances (anxiety, stress, and depression) and relationship quality (agreement, marital satisfaction, and cohesion) was calculated between couples with ADHD and ordinary couples (Table 1).

Table 1. Mean and standard deviation of emotional disturbances (anxiety, stress, and depression) and quality of life (agreement, marital satisfaction, and cohesion) in ADHD and ordinary couples

Measures	ADHD couples		Ordinary Couples	
	Mean	SD	Mean	SD
Emotional disturbances				
Depression	2.33	0.75	1.77	0.62
Anxiety	2.19	0.59	1.71	0.59
Stress	2.68	0.62	2.00	0.72
Quality of life	2.84	0.57	2.97	0.89
Marital agreement	3.35	0.81	3.67	1.12
Marital satisfaction	2.38	1.07	2.08	1.16
Marital cohesion	2.80	1.21	3.15	1.50

A correlation test was used to examine the relationship between ADHD symptoms and questionnaires related to emotional disturbances and the quality of life. The results showed that there was a positive correlation between ADHD symptoms and depression ($r=0.39$, $P<0.001$), anxiety ($r=0.45$, $P<0.001$), and stress ($r=0.56$, $P<0.001$) in couples with ADHD. However, there was no significant correlation between ADHD symptoms in couples with ADHD and components of the quality of life ($P>0.05$). In order to observe the assumptions of the parametric test of multivariate analysis of variance, Levene's test and Kolmogorov-Smirnov test were used. The results of the Levene's test in both variables of emotional disturbances (depression, anxiety, and stress) and relationship quality (agreement, satisfaction, and marital cohesion) showed that the assumption of the equality of error variances of the model is accepted. Also, the results of the Kolmogorov-Smirnov test related

to the normality of distribution for emotional disturbances (depression, anxiety, and stress) and quality of life (Marital agreement, satisfaction, and cohesion) showed that the distribution of points is not different from the normal distribution of these dimensions ($P>0.05$), in other words, the assumption that the model errors are normal is accepted. Therefore, performing multivariate analysis of variance tests to compare groups in terms of cognitive indicators is permitted. Multivariate analysis of variance test examined the differences between emotional disturbances (depression, anxiety, and stress) and the quality of life and its components (marital agreement, satisfaction, and cohesion) in couples with ADHD with ordinary couples. The result indicated no significant difference between the relationship quality and its components (marital agreement, marital satisfaction, and marital cohesion) in couples with ADHD compared to ordinary couples (Table 2).

Table 2. Results of MANOVA, emotional disturbances variables, and marital relationship quality in couples with ADHD and ordinary couples

Measures	Test	Value	F	P	Effect size
Emotional disturbances	Pillai's Trace	0.190	6.330	0.001	0.190
	Wilks' Lambda	0.810	6.330	0.001	0.190
	Hotelling's Trace	0.234	6.330	0.001	0.190
	Roy's Largest Root	0.234	6.330	0.001	0.190
Marital relationship quality	Pillai's Trace	0.04	1.00	0.396	0.036
	Wilks' Lambda	0.96	1.00	0.396	0.036
	Hotelling's Trace	0.04	1.00	0.396	0.036
	Roy's Largest Root	0.04	1.00	0.396	0.036

The findings of the above table show that the results of Wilks' Lambda test, which is more potent than the other tests, are significant with a value of (0.810) and F (6.330) at the level of ($P < 0.001$). In other words, suffering from ADHD in couples significantly affects emotional disturbances (depression, anxiety, and stress).

However, in the variable "quality of marital relationship", the results show that ADHD does not affect the quality of the couple's relationship. The effect of ADHD on emotional

disturbances (depression, anxiety, and stress) and the quality of marital relationships and its components (marital agreement, marital satisfaction, and cohesion) are presented in Table 3. Findings of Table 3 shows that suffering from ADHD has a significant effect on the emotional disturbances of depression ($F = 13.91, P < 0.001$), anxiety ($F = 12.37, P < 0.001$), and stress ($F = 18.91, P < 0.001$), but ADHD has no significant effect on the components of the couple's relationship quality ($P > 0.05$).

Table 3. Results of ANOVA of emotional disturbances scores (depression, anxiety, and stress) and relationship quality (marital agreement, marital satisfaction, and cohesion)

Measures	Total sum of squares	Mean square	F	P	Effect size	
Emotional Disturbances	Depression	6.173	6.173	13.905	0.000	0.143
	Anxiety	4.304	4.304	12.376	0.001	0.130
	Stress	7.925	7.925	18.912	0.000	0.186
Marital Relationship Quality	Agreement	1.957	1.957	1.832	0.180	0.022
	Satisfaction	2.059	2.059	1.626	0.206	0.019
	Cohesion	2.341	2.341	1.172	0.282	0.014

Discussion

This study aimed to compare emotional disturbances (anxiety, stress, and depression) and relationship and life quality in couples with ADHD and ordinary couples.

The results showed a significant difference between the two groups of ADHD couples and the ordinary group regarding anxiety, depression, and stress. In other words, the rate of depression, anxiety, and stress in couples with ADHD are higher than the ordinary couples. However, there is no significant difference in the quality of life between the two groups.

The results showed that anxiety, depression, and stress were higher in couples with ADHD

than those without this disorder. These findings are consistent with the results of (5,22) researches. D'Agati, Curatolo, and Mazzone also write in their study that Attention-Deficit/Hyperactivity Disorder and Anxiety Disorders are among the most common psychiatric disorders with 25% comorbidity (31). The researchers also shown that Attention-Deficit/Hyperactivity Disorder is related to Anxiety Disorder (2) and Depression Disorder (32,33). Attention-Deficit/Hyperactivity Disorder is frequently associated with other neuropsychiatric disorders in adulthood (34). The first sign of ADHD in adults can only be depression, which prevents the diagnosis of the disease in these

people (3-5). Depressive disorders classified in DSM-5, especially major depressive disorder, are reported in most people who have ADHD (35). Based on the results of Wetzel's research, anxiety disorder is also more common in people with ADHD. It is estimated that the increased risk of depression to be 6.5 times more common in people with ADHD (36).

One of the reasons that ADHD is associated with depression or causes depression can be stressful exposure to the environment, such as maladaptive relationships (37,38) and being victimized by others (39). Another reason is that ADHD has not been treated. Because ADHD treatment reduces the risk of depression, according to this opinion, in a national quasi-experimental study, the results showed that people with ADHD were 20% less likely to suffer from depression when they took medication than when they did not (40). Other studies show that ADHD and depression largely simultaneously (approximately 70%) are explained by common genetic factors (41). Also, in a recent study by the Society for Genome-Wide Association Studies (GWAS) on the widespread genetic association of ADHD with other psychiatric disorders, it was reported to be most strongly associated with depression (42). According to Riglin et al.'s research, childhood ADHD is associated with an increased risk of depression in adulthood. Findings show the effect of genetic causation of ADHD on major depression. In general, their research findings show that ADHD increases the risk of depression in later life (43).

Another finding of the study showed no significant difference between the quality of life and its components (marital agreement, marital satisfaction, and marital cohesion) in couples with ADHD compared to normal couples. This finding is inconsistent with the (14-16) research results, which concluded that ADHD predicts poorer social functioning in friendships and romantic relationships in adulthood. In explaining the above finding that there is no significant difference in the quality of life between couples with ADHD and normal couples, it can be inferred that marital quality is a multidimensional concept that includes not only intra-individual characteristics but also the

inter-individual characteristics of spouses and to some extents includes the couple's relative agreement on important issues such as working together and expressing love to each other (44). In addition, various factors affect the quality of the marital relationship or are predictable, including healthy relationships between couples and the level of marital expectations, personality traits, emotional stability, sexual satisfaction, and mental health. Accordingly, in general, one of the reasons for the lack of difference between the two groups of ADHD couples and normal couples in terms of the quality of the relationship is their personality traits or the type of attachment styles of couples; also, the duration of marriage is another factor that can affect the quality of the couple's relationship, which was not considered in this study.

The limitations of the present study include the low sample size and the impossibility of matching the two groups, the use of available sampling, and the lack of diagnosis of ADHD groups, especially in attention-deficit/hyperactivity disorder, which can pave the way for more accurate research in this field. Therefore, future researchers are advised to compare the emotional disturbances (anxiety, stress, and depression) and the quality of life in the subspecies of this disorder, such as the often neglected subspecies and often hyperactive, in addition to using a larger sample group, matching the two groups and randomly selecting the samples.

Conclusion

Emotional disturbances (anxiety, depression, and stress) are more common in couples with ADHD than in ordinary couples. However, there is no significant difference between the quality of life in ADHD couples and ordinary couples.

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