

The relation between Depression, Anxiety and Family Functioning among Mothers of Children with Attention Deficit Hyperactivity Disorder

Azza Elsayed Abd Elfatah Arafat

Assistant Professor of Psychiatric and Mental Health Nursing/ Department of Community, Psychiatric and Mental Health Nursing, College of Nursing, Qassim University, Saudi Arabia.
Email: a.arafat@qu.edu.sa

Abstract

Background: Attention Deficit Hyperactivity Disorder (ADHD) is a neurodevelopmental illness that often first appears in infancy and lasts well into adulthood. Mothers of children with ADHD often face unique challenges that might impact their mental health and the dynamics of their homes. The relation between these mothers' anxiety, depression, and family functioning has been the subject of research and therapeutic attention. **Aim of the study:** This study aimed to examine the relation between depression, anxiety, and family functioning among mothers of children with ADHD. **Subjects and Methods: Research Design:** This study used a descriptive approach to achieve its goal. **Setting:** This study was performed at pediatric outpatient clinics in El Azazi Hospital for Mental Health in the Al-Sharkia Governorate. **Subjects:** Fifty mothers of children with ADHD were specially selected as a sample for this study. **Tools of data collection:** The data collection sheet is composed of four parts including a socio-demographic sheet, The Zung Self-Rating Depression Scale (SDS), the Zung Self-Rating Anxiety Scale (SAS), and the Family Assessment Device - General Functioning Scale. **Results:** Concerning levels of depression, anxiety and family functioning among mothers of children with ADHD, two-fifths of them had a mild to moderate anxiety score. Also, half of mothers had a mild depression score, and about three-quarters had problematic general family functioning. **Conclusion:** Significant positive correlation was observed between depression, anxiety, and family functioning among mothers of children with ADHD. **Recommendations:** Provide evidence-based parent training programs focusing on managing ADHD-related behaviors and improving parenting skills. These programs can reduce anxiety and depression, and improve family functioning.

Keywords: ADHD, Depression, Anxiety, Family Functioning

Introduction

Attention deficit hyperactivity disorder (ADHD), characterized by impulsivity, hyperactivity, and inattention, is one of the most common mental illnesses present in childhood ⁽¹⁾. ADHD is a chronic condition characterized by deficiencies in the neurotransmitter systems that affect executive functioning ⁽²⁾. An important factor in etiology is genetics. ADHD in children has been linked to prenatal exposure to alcohol, nicotine, and other drugs, as well as to environmental contaminants and challenges during pregnancy and childbirth. Brain injury and anoxia in newborns are two of the main signs of ADHD that are linked to the early postnatal environment. High levels of family conflict and psychological difficulties have also been connected to ADHD ⁽³⁾. More

recent studies have connected ADHD—even after controlling for parental ADHD—to more specific family issues including unequal parenting ⁽⁴⁾.

According to epidemiological research, 6.7%–7.8% of kids globally suffer from ADHD, making it a prevalent condition ⁽⁵⁾. In the Arab world, this occurrence is greater, with 9.4%–21.8% in Egypt. Approximately 60–70% of kids with ADHD will continue to experience symptoms as adults. ⁽⁶⁾

ADHD is typified by a broad range of symptoms and functional impairments. Usually, symptoms include the inability to focus or make thoughtless mistakes, difficulty maintaining focus during tasks or activities like play or schoolwork, frequent forgetfulness, losing things, or being easily

distracted, inability to listen when someone speaks directly to you, excessive running or climbing in inappropriate places, inability to stay seated when expected to, like at dinner or school, acting without thinking, blurting out answers, or interrupting others, and difficulty waiting for turns or taking turns during conversations or games ⁽⁷⁾. ADHD may have a substantial influence on a person's life in many different ways. Children diagnosed with ADHD may face difficulty in their academic pursuits, struggle with social connections and behavior control, and find it difficult to sustain friendships ⁽⁸⁾.

The daily stress that mothers who find it difficult to regulate their child's behavior may be experiencing might lead to elevated levels of anxiety and depression. Having an ADHD child can lead to conflict in relationships and disturbances in the house ⁽⁹⁾. Maternal anxiety can be exacerbated by marital stress, difficulty in maintaining a healthy family life, and disagreements amongst siblings. In addition to social isolation, guilt, and self-blame are common emotions among mothers, and they can exacerbate anxiety and depression. Mothers should prioritize taking care of themselves, ask for help from friends, family, and partners, and seek mental health resources when necessary ⁽¹⁰⁾.

Raising a child with ADHD may be challenging and stressful, which can affect family interactions. Parents may have challenges as a result of their child's behavior. Siblings of children with ADHD may feel animosity or jealousy towards their sibling if they believe their sibling is getting more attention or accommodations. They could also run into peculiar familial dynamics ⁽¹¹⁾. Parental responsibilities, task distribution, and decision-making may be impacted by the fact that parents of ADHD children frequently take on an excessive amount of the caregiving burden. When organizing family gatherings, trips, or vacations, parents may need to take their child's need for structure and attention

management into account. This suggests that if a family member has ADHD, modifications and accommodations would be necessary. This might affect the dynamics and general functioning of the family ⁽¹²⁾.

Significance of the study:

Mothers of children with ADHD often face unique challenges and stressors in their daily lives. Understanding the relation between depression, anxiety, and family functioning can shed light on the specific mental health concerns experienced by these mothers. It can help identify risk factors for depression and anxiety, and guide the development of targeted interventions to support their mental well-being. Maternal mental health, including depression and anxiety, can have a significant impact on parenting behaviors and child outcomes. Depression and anxiety may affect a mother's ability to provide consistent and effective parenting, which can, in turn, influence the overall family functioning and the child's ADHD symptoms. By examining the relationship between these factors, interventions can be developed to support positive parenting practices and improve child outcomes.

Aim of the study:

The study was intended to examine the relation between depression, anxiety, and family functioning among mothers of children with attention deficit hyperactivity disorder.

Research questions:

The research questions for which the researchers tried to find out the answers were:

- 1- What is the level of depression among mothers of children with ADHD?
- 2- What is the level of anxiety among mothers of children with ADHD?
- 3- What is the level of family functioning among mothers of children with ADHD?

- 4- Is there a relation between depression, anxiety, and family functioning among mothers of children with ADHD?

Subjects and methods

Research design:

A descriptive design was utilized in this study.

Study setting:

The study was conducted in the pediatric outpatient clinics of El Azazi Hospital for Mental Health in Abo Hamad City, Alsharkia Governorate.

Research subjects:

A thoughtful selection of fifty women whose children are enrolled and who satisfy the following eligibility criteria: mothers under fifty, and mothers who provide their children direct care. One of the exclusion criteria is a psychiatric diagnosis of comorbidity with ADHD in children, along with other neurological disorders.

Data collection tool:

This is composed of four parts including the socio-demographic sheet, The Zung Self-Rating Depression Scale (SDS), the Zung Self-Rating Anxiety Scale (SAS), and the Family Assessment Device - General Functioning Scale:

1. Socio-demographic sheet:

This approach was developed by researchers and included the following:

- (1) Information about the socio-demographics of the parents, such as their address, occupation, marital status, income, and level of education.
- (2) Child personal information, including age, gender, and sibling order.

2. Zung Self-Rating Depression Scale (SDS) was developed by Zung⁽¹³⁾:

Twenty items on the scale are used to evaluate the four common aspects of depression, which are the widespread influence, the physiological equivalents, comorbid diseases, and psychomotor activity. There are 10 positively phrased questions and 10 negatively worded questions. Every question has a 4-point rating system, with 1 denoting none or very seldom and 4 denoting most or often. The raw score range on the scale is 20 to 80 points. After that, the raw score is divided by the highest possible score (80), expressed as a decimal, or multiplied by 100 to represent a whole number. The resulting index score ranges from 25 to 100.

Scoring system of (SDS): Scores vary from 25 to 100.

- Normal: 25-49
- Mild depression: 50-59
- Moderate depression: 60-69
- Severe depression: 70 and above

3. Zung Self-Rating Anxiety Scale (SAS) was developed by Zung⁽¹⁴⁾:

Twenty things are on the four-point scale (1 being Never or Rarely, 2 Sometimes, 3 Often, and 4 Always). The raw score range that could be obtained was 20 to 80. The raw score was normalized using the following formula: Standard score = int (1.25*raw score), with a greater score denoting a higher degree of anxiety.

The scoring system of SAS: The scores vary from 25-100.

- Normal Range: 20-44
- Mild to Moderate Anxiety: 45-59
- Marked to Severe Anxiety: 60-74
- Extreme Anxiety: 75 and above

4. Family Assessment Device (FAD) - General Functioning Scale was developed by Epstein et al. ⁽¹⁵⁾:

The total items on the scale consist of six statements that depict unhealthy family functioning and six statements that represent healthy family functioning. From 1 (strongly agree) to 4 (strongly disagree), there were four possible answers. Six statements on healthy functioning were given inverted scores, where 1 represented disagreement and 4 total agreements. The range of the total score, which was divided by 12, was 12 to 48. When a family's score is 2.00 or above, it becomes problematic for them to function. The higher the score, the more a family member believes the family is operating as a whole.

Content validity and reliability:

Tools were translated into Arabic using the translation and reverse translation procedure to ensure their original validity. After assessing the content validity of the instruments, five experts in psychiatric and mental health nursing from Zagazig University's Faculty of Nursing made changes to enhance their readability, applicability, comprehensiveness, understanding, and ease of use. Their suggestions and remarks were taken into consideration.

The instrument's reliability was assessed using the Cronbach's alpha test in the Statistical Package of Social Sciences (SPSS) V.20. High levels of dependability are demonstrated by the SAS scales, which was 0.931, the SDS Cronbach's alpha score of 0.82, and the Family Assessment Device - General Functioning Scale ($\alpha = 0.75$).

Pilot study:

About 10% of the study subjects participated in a pilot study to evaluate the tools' applicability, viability, and practicability. The required adjustments were

subsequently made in light of the results of the pilot's research.

Field work:

Data were collected at the outpatient mental health clinics at El Azazi Hospital. While moms were waiting for their child's doctor appointment, the researchers got in touch with them. At the time, the research was disclosed, as was the nature and goal of the study. Furthermore, informed consent was obtained. The questionnaires were filled out by mothers who had been read to or given explanations. The questionnaires were anonymous and required 20 to 30 minutes to complete. Every day, two or three mothers were questioned (two days per week). The completion of the data collection procedure took around three months.

Administrative and Ethical considerations:

The proposal for this study was officially approved by the Scientific Research Committee (number of ethical acceptances is ID/Zu.Nur.REC#:0079) of the College of Nursing at Zagazig University. Through official correspondence between the director of the selected hospital and the nursing faculty, the researchers were able to formally get permission for data collection. It has been established that mom gave their consent. A thorough explanation of how to complete the surveys was provided. It was confirmed that the data collected will be kept confidential and used only for research purposes. Participants were informed that they could withdraw from the study at any time without incurring any penalties.

Statistical Analysis

All data were collected, tabulated, and statistically analyzed using SPSS 20.0 for Windows (SPSS Inc., Chicago, IL, USA 2011). Quantitative data were expressed as the mean \pm SD and qualitative data were expressed as absolute frequencies (number) & relative frequencies

(percentage). The percentage of categorical variables was compared using the Chi-square test or Fisher's exact test when appropriate. Pearson correlation coefficient was calculated to assess the relationship between study variables. Multiple linear regression (stepwise) was also used to predict factors that affect family assessment scores. Cronbach alpha coefficient was calculated to assess the reliability of the scales through their internal consistency. P-value < 0.05 was considered statistically significant, p-value < 0.001 was considered highly statistically significant, and p-value \geq 0.05 was considered statistically non-significant.

Results

Table (1) Shows that children's ages ranged with a mean age of 12.46 years. Three-fourths of children (76%) were males. In terms of residence, there were two-thirds (68%) from rural areas. Twenty percent of their mothers were widows. Two-fifths (40%) of fathers had secondary education, while three-fifths (60%) of mothers had secondary education. Concerning parents' jobs, the majority of the fathers (90%) were working, while the majority of the mothers (70%) were housewives. Three-fifths (60%) of them had insufficient income.

Table (2) Demonstrates that the mean score of mothers as regards anxiety was 44.60 ± 9.348 , depression was 49.50 ± 10.21 , and general family functioning was 30.44 ± 9.94 . Half (50%) of the mothers of ADHD children who were examined had a normal anxiety score, and two-fifths (40%) had a mild to moderate anxiety score. Half (50%) of mothers had a mild depression score. About three-quarters (74%) of mothers had problematic general family functioning.

Table (3) Reveals that there was a highly statistically significant relation between the total score of anxiety in mothers of children with ADHD and the child's age (years), sex,

birth order, residence, father's marital status, father's job, mother marital status, mother job, income, father's education, and mother's education ($p < 0.01$).

Table (4) Clarifies highly statistically significant relations between the total score of depression in mothers of children with ADHD and the child's birth order and the mother's marital status, job, and education ($p = 0.001$). In addition, there were statistically significant relations between the total score of depression in mothers and child age, residence, and father education ($p < 0.05$).

Table (5) Reveals highly statistically significant relations between the total score of family functioning of mothers and children's birth order and mother's education and job ($p < 0.01$). In addition, there were statistically significant relations between total score of family functioning and mother's marital status ($p < 0.05$).

Table (6) Shows highly statistically significant relations between family functioning score, anxiety, and depression of participants ($p < 0.01$).

Table (7) Detects anxiety among mothers of children with ADHD was highly statistically significant and positively correlated with child age, while it was negatively highly statistically significantly correlated with birth order, income, and mother education. Depression among mothers of children with ADHD was positively highly significantly correlated with child age, while it was negatively highly significantly correlated with birth order and mother education. Family functioning among mothers was positively significantly correlated with child age, while it was negatively highly significantly correlated with birth order and mother education.

Table (8) shows that anxiety among mothers of children with ADHD was highly significantly positively correlated with the total score of depression ($r = 0.471$ at $p < 0.001$). Also, anxiety was statistically significantly positively correlated with the

total family functioning score ($r = 0.330$ at $p = 0.019$). Depression was highly significant and positively correlated with the total family functioning score ($r = 0.506$ at $p < 0.001$).

Table (9) Demonstrates that depression score was statistically positive predictor of family functioning score ($P < 0.001$). The model explains 85% of family functioning score as shown by the value of r square.

Discussion

Raising a child with ADHD may be challenging and stressful for mothers. Children with ADHD might exhibit emotional and behavioral dysregulation, which includes frequent fits of wrath, disobedience, and difficulty following rules. Mothers who participate in these behaviors may feel emotionally strained, which may exacerbate feelings of melancholy and anxiety. Families whose children have been diagnosed with ADHD have been shown to have family functioning as one of their main problems because of their challenges with organization and family relations⁽¹⁶⁾.

The purpose of this research was to examine the relation between depression, anxiety, and family functioning among mothers of children with ADHD.

The current findings revealed that about two-fifth of the studied mothers of children with ADHD had a mild to moderate score of anxiety. This might be explained by the fact that mothers typically have the most interaction with their children and shoulder a disproportionate share of the demanding responsibilities associated with child care. Because of the responsibilities of being a parent, many of these women cause can cause long-term stress and produce anxiety. Also, **Liang et al.**⁽¹⁶⁾ cleared that psychopathology in children, including oppositional behaviors, inattention, and autistic features, might make moms' stress levels worse when they are caring for their kids.

Mothers of children with ADHD may experience prolonged discomfort as a result of these difficulties, which are also connected to interactions between siblings or within the family, such as difficulties with sibling relationships. This was following **Hammuda et al.**⁽²³⁾ who revealed that two-thirds of mothers of children with ADHD exhibit anxiety symptoms. It was shown that moms with children who exhibited emotional resiliency or stubbornness were more likely to experience feelings of anxiety. Also, **Segenreich et al.**⁽²⁴⁾ showed that mothers of children with ADHD reported greater levels of anxiety symptoms.

The results are also in agreement with the results of **Durukan et al.**⁽²⁵⁾ and **Soltanifar et al.**⁽²⁶⁾. Unlikely, the results of **Segenreich et al.**⁽²⁴⁾ showed the lack of a meaningful correlation between the illnesses of mothers and their offspring. However, it differs from **Kashdan et al.**⁽²⁷⁾ study, which discovered a strong correlation between moms' symptoms and their children's ADHD symptoms. Also, it differs from the study of **Mirzaaghas et al.**⁽²⁸⁾ in the significant correlation between anxiety among mothers and hyperactivity in children. **Hajebi et al.**⁽²⁹⁾ found that 19.4% of Iranian women had anxiety disorders 12 months of the year. Besides that, **Benderix et al.**⁽³⁰⁾ demonstrated that when their children act inappropriately, mothers worry a great lot.

The present study revealed that slightly less than half of the studied mothers of children with ADHD had a normal score of depression, and about half of them had a mild score of depression. This might be explained as children's psychopathology, such as ADHD, may make it more difficult for mothers to raise their children and increase stress related to caregiving. These parenting challenges may be linked to issues with sibling or mother-child interactions within the family or to difficulties outside the family. Mothers of children with ADHD may also experience chronic distress, which has been linked to negative outcomes for their social

and environmental quality of life and may even result in the onset of depression symptoms.

In alignment with current findings, **Liang et al.** ⁽¹⁶⁾ cleared those mothers of children with ADHD had mild scores of depressive symptoms. **Chou et al.** ⁽³¹⁾ revealed that depression symptoms were present in over one-fifth of the caregivers. Numerous caregiver characteristics, including marital status, perceived family support, and inclinations toward emotion-focused and less effective coping mechanisms, have been linked to the onset of depression symptoms. The results indicated that caregivers' mental health may be impacted by both environmental and personal factors. **Elhadad et al.** ⁽³²⁾ discovered that slightly less than half of the studied mothers of children with ADHD had depression. These results were consistent with those of **Bawalsah et al.** ⁽³³⁾ at Amman University. A study conducted by **Ghanizadeh et al.** ⁽³⁴⁾ claimed that mood disorder was the most prevalent mental condition among parents of children with ADHD. Among those children, slightly less than half of the moms had serious depression. The study by **Soltaniar et al.** ⁽²⁶⁾ discovered that about one-third of moms of children with ADHD had depression incidence.

According to **Gerdes et al.** ⁽³⁵⁾, mothers see parental stress as severe and deal with overwhelming living conditions. The hypothesis was that women become insensitive to their child's misbehavior because of their high stress levels and uncertain life situations. This makes it harder for the mother to deal with problems and makes her depression symptoms worse. **Ferrari et al.** ⁽³⁶⁾ showed that mothers of children with ADHD had depression and anxiety. **Gharraee et al.** ⁽³⁷⁾ found that 4.8% of Iranian women had serious depressive illness. **Khodabakhshi-Koolaee et al.** ⁽³⁸⁾ stated that mothers of ADHD-affected children experience stress, psychological

issues, sadness, restriction, extreme aggravation, forced relationships, and challenging living conditions, according to the study.

The current study revealed that about three-fourths of the studied mothers of children with ADHD had problematic family functioning scores. Family functioning score is associated with anxiety, illustrating that mild to moderate anxiety is more common among mothers with problematic family assessment. Family functioning score is associated with depression, illustrating that mild depression is more common among mothers with problematic family functioning. This is significant for several reasons, the primary one being communication disturbance. Relationships with a spouse, kid, other family members' children, and the surroundings were some of the troublesome subcategories. A child's propensity to imitate their family members' conduct was another problem. In agreement with our findings, **Karimzadeh et al.** ⁽¹⁰⁾ illustrated that a child's behavior was the primary cause of the family's issues.

Khodabakhshi-Koolaee et al. ⁽³⁹⁾ claimed that the relationship between a child and their parent interacts and that the effects of the child and parent are reciprocal. Studies on the relationship between parents and ADHD children have shown a great deal of stress, imposition, hopelessness, limitation, and dissatisfaction. **Breaux and Harvey** ⁽⁴⁰⁾ revealed that higher levels of maternal overreactive parenting and life stress were predictive of higher levels of child ADHD symptoms in a longitudinal study looking at the relationships between family functioning and symptoms of ADHD across the preschool years. This, in turn, led to higher levels of maternal life stress and depressive symptoms as well as a decline in family warmth

Pimentel et al. ⁽⁴¹⁾ stated that disruptions in parents' psychological functioning are linked to high levels of

parental stress. **Karaman et al.** ⁽⁴²⁾ revealed that mothers of ADHD-affected children scored considerably higher on the Family Assessment Device (FAD) subtests measuring roles, emotional responsiveness, affective participation, and behavior regulation than the control group did for depression, state anxiety, and trait anxiety.

Kappel et al. ⁽⁴³⁾ stated that when family dysfunction and adversity were compared between families with children with ADHD and families without ADHD, it was shown that the parents of the ADHD group's children had far higher levels of family dysfunction. This might be explained by the fact that parents' and other family members' mental health may be impacted by the strain and responsibilities of raising a kid with ADHD. Their levels of anxiety, despair, or exhaustion could be greater. Caregiving for children diagnosed with ADHD typically falls mostly on the shoulders of their parents. This may affect how family members divide up home chores, take turns being parents, and make decisions. It's essential to strike a balance between these obligations and other family members' needs to keep the family working well. **Guerrero-Muñoz et al.** ⁽⁴⁴⁾ argued that mothers of preterm infants had a slightly increased frequency of depressive

symptoms, and a noteworthy association was seen between their symptoms and reduced family functionality a characteristic that was unconnected to the symptoms of maternal depression.

Conclusion

In conclusion, the findings of this study reveals a concerning levels of depression, anxiety and family functioning among mothers of children with ADHD, half of them had a normal anxiety score, and two-fifths had a mild to moderate anxiety score. Also, half of mothers had a mild depression score, and about three-quarters had problematic general family functioning.

The significant positive correlation was observed between depression, anxiety, and family functioning among mothers of children with ADHD.

Recommendations

Provide evidence-based parent training programs focusing on managing ADHD-related behaviors and improving parenting skills. These programs can reduce anxiety and depression, and improve family functioning.

Table (1): Socio-demographic Characteristics of Children with ADHD and Their Parents (n=50).

Characteristics	No.	%
Child Age (years)		
≤12	21	42.0
>12	29	58.0
Mean SD	12.46 ± 1.95	
Sex		
Male	38	76.0
Female	12	24.0
Birth order		
First	18	36.0
Middle	17	34.0
Last	15	30.0
Residence		
Urban	16	32.0
Rural	34	68.0
Father Job		
Not working	5	10.0
Private	15	30.0
Governmental employee	30	60.0
Mother marital status		
Married	40	80.0
Widow	10	20.0
Mother Job		
Housewife	35	70.0
Private	10	20.0
Governmental employee	5	10.0
Income		
Enough	20	40.0
Not enough	30	60.0
Father education		
Illiterate	5	10.0
Basic education	0	0.0
Secondary	20	40.0
University	25	50.0
Mother education		
Illiterate	0	0.0
Basic education	5	10.0
Secondary	30	60.0
University	15	30.0

Table (2): Total scores of Anxiety, Depression and Family Functioning of Mothers of Children with ADHD (n=50).

Score	No.	%	Mean± SD. Range
Total score of anxiety			
Normal	25	50.0	44.60± 9.348
Mild to moderate	20	40.0	30-60
Marked to severe	5	10.0	
Extreme anxiety level	0	0.0	
Total score of depression			49.50±10.21
Normal	20	40.0	33-66
Mild	25	50.0	
Moderate	5	10.0	
Severe	0	0.0	
FAD-general functioning score			30.44±9.94
Normal	13	26.0	13-47
problematic	37	74.0	

Table (3): Relation between Socio-demographic Characteristics of Children with ADHD and Their Parents and Their Total Score of Anxiety.

Characteristics	Total score of anxiety						χ ²	p-value
	Normal = (25)		Mild to moderate = (20)		Marked to severe = (5)			
	No.	%	No.	%	No.	%		
Child Age (years)								
≤12	16	64.0	5	25.0	0	0.0	10.961	<0.001**
>12	9	36.0	15	75.0	5	100.0		
Sex							22.368	<0.001**
Male	18	72.0	20	100.0	0	0.0		
Female	7	28.0	0	0.0	5	100.0		
Birth order							29.673	<0.001**
First	5	20.0	8	40.0	5	100.0		
Middle	5	20.0	12	60.0	0	0.0		
Last	15	60.0	0	0.0	0	0.0		
Residence							9.605	0.008**
Urban	13	52.0	3	15.0	0	0.0		
Rural	12	48.0	17	85.0	5	100.0		
Father Job							51.250	<0.001**
Not working	0	0.0	0	0.0	5	100.0		
Private	10	40.0	5	25.0	0	0.0		
Governmental employee	15	60.0	15	75.0	0	0.0		
Mother marital status							18.750	<0.001**
Married	25	100.0	10	50.0	5	100.0		
Widow	0	0.0	10	50.0	0	0.0		
Mother Job							21.429	<0.001**
Housewife	10	40.0	20	100.0	5	100.0		
Private	10	40.0	0	0.0	0	0.0		
Governmental employee	5	20.0	0	0.0	0	0.0		
Income							9.375	0.009**
Enough	15	60.0	5	25.0	0	0.0		
Not enough	10	40.0	15	75.0	5	100.0		
Father education							20.245	<0.001**
Illiterate	5	20.0	0	0.0	0	0.0		
Secondary	3	12.0	15	75.0	2	40.0		
University	17	68.0	5	25.0	3	60.0		
Mother education							22.200	<0.001**
Basic education	2	8.0	2	10.0	1	20.0		
Secondary	8	32.0	18	90.0	4	80.0		
University	15	60.0	0	0.0	0	0.0		

χ²: Chi square test, non-significant (p>0.05), *: statistically significant (p<0.05), **: statistically highly significant(p<0.01)

Table (4): Relation between Socio-demographic Characteristics of Children with ADHD and their Parents and their Total Score of Depression.

Characteristics	Total score of depression						χ ²	p-value
	Normal = (20)		Mild = (25)		Moderate = (5)			
	No.	%	No.	%	No.	%		
Child Age (years)								
≤12	12	60.0	9	36.0	0	0.0	6.650	0.036*
>12	8	40.0	16	64.0	5	100.0		
Sex							1.809	0.405
Male	15	75.0	18	72.0	5	100.0		
Female	5	25.0	7	28.0	0	0.0		
Birth order							37.200	<0.001**
First	0	0.0	18	72.0	0	0.0		
Middle	8	40.0	4	16.0	5	100.0		
Last	12	60.0	3	12.0	0	0.0		
Residence							8.869	0.012*
Urban	11	55.0	5	20.0	0	0.0		
Rural	9	45.0	20	80.0	5	100.0		
Father Job							8.800	0.066
Not working	0	0.0	5	20.0	0	0.0		
Private	8	40.0	7	28.0	0	0.0		
Governmental employee	12	60.0	13	52.0	5	100.0		
Mother marital status							23.063	<0.001**
Married	19	95.0	21	84.0	0	0.0		
Widow	1	5.0	4	16.0	5	100.0		
Mother Job							14.571	<0.001**
Housewife	8	40.0	22	88.0	5	100.0		
Private	8	40.0	2	8.0	0	0.0		
Governmental employee	4	20.0	1	4.0	0	0.0		
Income							4.000	0.135
Enough	8	40.0	12	48.0	0	0.0		
Not enough	12	60.0	13	52.0	5	100.0		
Father education							12.920	0.012*
Illiterate	4	20.0	1	4.0	0	0.0		
Secondary	4	20.0	11	44.0	5	100.0		
University	12	60.0	13	52.0	0	0.0		
Mother education							18.133	0.001**
Basic education	0	0.0	5	20.0	0	0.0		
Secondary	8	40.0	17	68.0	5	100.0		
University	12	60.0	3	12.0	0	0.0		

χ²: Chi square test, non-significant (p>0.05), *: statistically significant (p<0.05) , **: statistically highly significant(p<0.01)

Table (5): Relation between Socio-Demographic Characteristics of Children with ADHD and their Parents and their Total Family Functioning Score.

Characteristics	Total family functioning score				χ ²	P-value
	Normal = (13)		Problematic = (37)			
	No.	%	No.	%		
Child Age (years)						
≤12	6	46.2	15	40.5	FET	0.754
>12	7	53.8	22	59.5		
Sex						0.707
Male	9	69.2	29	78.4		
Female	4	30.8	8	21.6		
Birth order					10.417	0.005**
First	0	0.0	18	48.6		
Middle	6	46.2	11	29.7		
Last	7	53.8	8	21.6		
Residence					FET	0.301
urban	6	46.2	10	27.0		
rural	7	53.8	27	73.0		
Father Job					4.782	0.092
not working	0	0.0	5	13.5		
private	2	15.4	13	35.1		
governmental employee	11	84.6	19	51.4		
Mother marital status					FET	0.046*
Married	13	100.0	27	73.0		
Widow	0	0.0	10	27.0		
Mother Job					21.191	<0.001**
Housewife	3	23.1	32	86.5		
Private	8	61.5	2	5.4		
Governmental employee	2	15.4	3	8.1		
Income					FET	0.327
Enough	7	53.8	13	35.1		
Not enough	6	46.2	24	64.9		
Father education					5.561	0.062
Illiterate	0	0.0	5	13.5		
Secondary	3	23.1	17	45.9		
University	10	76.9	15	40.5		
Mother education					18.642	<0.001**
Basic education	0	0.0	5	13.5		
Secondary	3	23.1	27	73.0		
University	10	76.9	5	13.5		

FET: Fisher exact test, χ²: Chi square test, non-significant (p>0.05), *: statistically significant (p<0.05), **: statistically highly significant(p<0.01).

Table (6): Relation between Total Family Functioning Score, Anxiety and Depression scores.

Items	Total Family Functioning Score				χ ²	p-value
	Normal = (13)		Problematic = (37)			
	No.	%	No.	%		
Anxiety						
Normal	13	100.0	12	32.4	17.568	<0.001**
Mild to moderate	0	0.0	20	54.1		
Marked to severe	0	0.0	5	13.5		
Depression						
Normal	11	84.6	9	24.3	14.709	0.001**
Mild	2	15.4	23	62.2		
Moderate	0	0.0	5	13.5		

χ²: Chi square test, **: statistically highly significant (p<0.01).

Table (7): Correlation between Socio-demographic Data and Total Scores of Anxiety, Depression and Family Functioning.

Items	Anxiety		Depression		family functioning	
	r	p	r	p	r	p
Child age	0.392	0.005 **	0.452	0.001 **	0.346	0.014 *
Birth order	-0.481	<0.001**	-0.582	<0.001**	-0.591	<0.001**
Income	-0.384	0.006 **	-0.242	0.090	-0.219	0.127
Father education	-0.175	0.223	-0.267	0.061	-0.204	0.154
Mother education	-0.616	<0.001**	-0.702	<0.001**	-0.617	<0.001**

r: correlation coefficient, *: statistically significant (p<0.05), **: statistically highly significant(p<0.01).

Table (8): Correlation of Study Variables.

	Total score of anxiety		Total score of depression		Total family functioning score	
	r	p	r	p	r	p
Total score of anxiety						
Total score of depression	0.471	<0.001 **				
Total family functioning score	0.330	0.019 *	0.506	<0.001**		

r: correlation coefficient, *: statistically significant (p<0.05), **: statistically highly significant(p<0.01).

Table (9): Best Fitting Multiple linear Regression for Predicting Factors which Affect Family Functioning Score.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	-13.982	2.761		-5.064	.000	-19.534	-8.430
Depression score	.897	.055	0.921	16.420	<0.001*	.788	1.007

R-square=0.849, ANOVA: F= 269.615, P<0.001.

Variables entered and excluded: Child age, sex, birth order, residence, father marital status, father job, mother marital status, mother job, income, father education, mother education, and anxiety.

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