

## Comparing the Mental Health of Children's' Mothers With ADHD and Normal Children' Mothers In Hamedan

**Samaneh Sanaei Kamal**

Department of Psychology, Tabriz University, Tabriz, Iran

**Jalil Babapor Kheyradin**

Associate Professor, Department of Psychology, Tabriz University, Tabriz, Iran

**Karim Abdol Mohamadi**

Department of Psychology, Tabriz University, Tabriz, Iran

**Ayatollah Fathi**

Faculty of Educational and Psychology Tabriz University, Tabriz, Iran

**Narges Dolatyari** (corresponding author)

Department of Psychology, Islamic Azad University, Science and Research Branch,  
Alborz, Iran

:n.dolatyari@yahoo.com

**Hossein Seid**

Department of Psychology, Islamic Azad University, Science and Research Branch,  
Alborz, Iran

### Abstract

**The aim of the study:** Hyperactivity is one of the most common behavioral disorders that endanger parents' mental health, especially mothers, as someone who has first contact with child. This study aimed to compare the mental health of mothers with hyperactive children and mothers with normal children.

**Methods:** The study's methodology is a scientific-comparison. Statistical population refers to all mothers of Hamedan city in 2011. Sample is 200 children's mothers with ADHD and normal children's mothers which is selected by available sampling from elementary school of Hamadan. Data is gathered by Conner (parent form) and SCL-90 questionnaires and is analyzed by computer program of SPSS.

**Results:** The obtained results from statistical findings showed significant differences between the mental health of mothers with ADHD children and mothers with normal children in components of somatization, obsessive and compulsion, interpersonal sensitivity, depression, anxiety, hostility, phobia, paranoid thoughts and psychotic at the level of 0/01. This difference has advantage for mothers with normal children. **Conclusion:** The results of this study showed that children with ADHD disorder in the family have a huge impact on the mental health of mothers and families.

**Keywords:** Hyperactivity, Mental health, Children, Mothers

### Introduction

With progress of science along with the complexity of social and personal lives and consequently increasing stress levels of individuals, it is necessary to considering human's mental and emotional stressor issues more than ever Kaplan, Sadock, Grebb, (2003). In general issue of "health" and specifically "mental health" affected by a range of physical, social and cognitive factors (Solhi, Sadeghi, Rodbari (2012) which is the combination of positive emotions (emotional well-being) posi-

tive performance (social and psychological well-being) (Keyes, 2002). In World Health Organization's definition, mental health is not considered just as the absence of mental disorder, but it is a state of prosperity and comfort in which each person sees him as capable and talented that can cope with the stresses of normal life (World Health Organization (2008). In issue of mental health, the family has a special importance (Narimani, Agha Mohammadiyan, Rajabi, 2009) and can be reflection of thousands of years' culture that has tried to promote members' mental health and cognitive development (Christensen, 2004). Family is a network of connections in which parents and children interact with each other in two-way process (Mikaeiliye Monie, 2009). Certainly the birth of child with behavioral disorders creates a serious lacuna in interaction and balancing of family and effects on mental health of the family especially the parents (Lara, Fayyad, Graaf, Kessler, Aguilar-Gaxiola, Angermeyer, et al (2009). The presence of a child with behavioral disorders which the most important of it refers to Attention Deficit Hyperactivity Disorder (ADHD) can remove the family's firstly regular action and confronted them with stress, anxiety, and different problems (Grant, Huggins, Connor, & Streissguth, 2005). In the same vein, there are various evidences, suggest that parents of children with behavioral disorders are more likely encountered to social, economic and emotional problems which often have limiting, destructive and pervasive nature (Khamis, 2007). ADHD is an evolutionary disorder (Gupta & Kar, 2009) that has high prevalence in childhood and adolescents (Wolfe, 2004) and disrupts child's ability in maintaining attention and his age-appropriate games in cognitive and behavioral position (Shiels, Hawk, 2010). Also is defined with by symptoms of inattention, impulsivity and hyperactivity (Biederman, & Faraone, 2005). For its detection at least 6 of 9 criteria of inattention or hyperactivity - impulsivity must be seen in two separate occasions (e.g, home and school) and these symptoms should be last for 6 months. In etiology of this disorder in the first place, the presence of a large genetic component (Trenton, 2008) and noradrenergic and dopaminergic system damage is discussed (Dadsetan, 2004). These damages lead to dysfunction of higher cortex process which is related to executive function (such as planning, working memory, abstract reasoning, and mental flexibility) (Prudent, Johnson, Carroll, 2005). Children with ADHD act poorer in response inhibition, divided attention, working memory, reaction time than normal children (Pasini, Paloscia, Alessandrelli, Porfirio, & Curatolo, 2007). These children frequently argument with their parents on different areas (Robin, 2008) and show more inappropriate behaviors and less obedience of themselves (McBurnett, & Pfiffner, 2008). In family and friendly relationships act poor (Davids, & Gastpar, 2005) and less able to carry out the wishes of their parents (Chronis-Tuscano, Raggi, Clarke, Rooney, Diaz, & Pian, 2008), also cannot tolerate resistance to failure and irritability and mood instability are seen in them (De Boo, & Prin 2007). In some cases, the non- evolutionary of emotion, aggression, obsessive - compulsive disorder, tics, mood and anxiety disorders, learning disorders, academic failure, oppositional disorder, conduct disorder coping with this disorder, that leave a large impacts on children, parents and the parent - child interaction (Moherri, 2010). Some impacts of this disorder on child refer to difficulty in behavioral inhibition (Semrud-Clikeman, Steingard, Filipek, Biederman, Bekken, & Mrenshaw, 2000) executive functioning (Hallahan, Kuffman, & Pullen, 2009) purposeful behavior consistently (Barkley 1998) adaptive skills (Barkley, 2000) and undesirable social behavior. Some impacts of this disorder on parents include creating stress and psychological stress (quoted from Beh Pazhoh, Motoli Por, Farzeda, Rostami, Asgarabad, 2010). So ADHD affects on school activities, family relations, peer relations (Coghill, Soutullo, Aubuisson, Preuss, Lindback, Silverberg, and Buitelaar, 2008). In such situation all those who are around him, family members and its functionality damage (Herring, Gary, Taffe, Sweeney, & Eifeld, 2006 ), But, mothers due to the traditional role of 'care' feel and take

more responsibilities towards their children so encounter more stress and psychological problems (McConkey, Truesdale-Kennedy, Chang, Jarrah, & Shukri, 2007).

From the perspective of the documentary style too, mothers of ADHD children know their children's behavior fixed, unchangeable and uncontrollable and take less responsible for their child's behavior than normal children's mothers (Rogers, Cann, Cameron, Littlefield, & Lagioia, 2003). Generally, they show more negative reactions to children's behavior (Chen, Seipp, Johnston, 2008) and maternal negativity is strong predictor (even beyond early child behavioral problems) in continuity of children's problem (Wymbs, Pelham, Molina, Gnary, 2008). In addition, features such as, high economic costs, reduced social interaction (Zaidman-zait, 2007), feel guilt of giving birth to an abnormal baby and negative attitudes of around (Singer, 2006) as well as social and emotional sources of stress related to child's problem can lead to increase stress (Kaplan, 2010) depression and generally, is a threat to the mental health of parents, especially mothers (Pipp-Siegel, Sedey, & Yoshinaga-Itano, 2002). Therefore, it is expected that, in this condition mothers are under more pressure and they damage psychologically (Harborne, & Wolperrt, 2004). Although, in the past the focus of research literature about the relationship between parents - child more concerned with the influences that parents had psychologically on their children. But recently these researches focused on the effects that children have on their parents (Khorram Abadi, Pouretamad, Tahmasian, 2010). According to the researches done in this regard, the impacts of hyperactive children on other family members, especially parents have been accepted (Lehner- Dua 2001). In a survey conducted by Lehner-Dua the prevalence rate of psychopathology among parents of hyperactive children indicated that one-third of them had received a psychiatric diagnosis and most of them had required diagnostic criteria for alcoholism, social deviance and hysteria. Symptoms of hysteria was rampant among women, while the index of alcoholism and antisocial behavior was more common in fathers (Schroder, Kelly, 2008)

Results of studies showed that parents of children with ADHD show low levels of family organization (Schroder, Kelly, 2008) and higher levels of marital conflict (Pressman, Loo, Carpenter, Asarnow, Lynn, McCracken, et al. 2006), separation and divorce (Pavuluri, Luk, & Gee, 1999) parenting intervention (Lange, Sheerin, & Carr, 2005) lack of satisfaction of their parental role and psychological damage than parents of normal children (Pressman, Loo, Carpenter, Asarnow, Lynn, McCracken, et al. 2006). According to study of Beck (1990), mothers of ADHD children experience typically more stress and feeling of isolation, low self-confidence than normal children's mothers (Beck, Young, Tarnowski 1990).

Shure and Gaue (2007) in their study examined family factors of attention deficit disorder and found that mothers of ADHD children show greater psychological distress. Results of Hammen and colleagues (1998) also showed that children's mothers with ADHD have received high rates of diagnoses of mood disorders (especially unipolar mood disorder) (Hammen, Gordon, Burge, Adrian, Jaenicke, & Hiroto, 1987). The survey of Eisenhower, Baker, Blacherr (2005) indicated that mothers of ADHD children compared to normal children's mothers have lower level of public health and psychological and higher level of depression and anxiety (Eisenhower, Baker, Blacher, 2005) Consistent with these findings, other researches indicated that children's mothers with ADHD had higher levels of stress, a feeling of less competence (quoted from, Mansour. Hekmati, Eisa. Soudmand, Mohsen 2009) lower self-efficacy in helping children (Rogers. 2009) as well as more negative affection and higher levels of aggression (Crnic, Gaze, Hoffman, 2005). In this regard, Khosravi (2003) examined family functioning of children with ADHD. Results showed that parents of these children were in lower level in dimensions of problem solving, emotional fusion and emotional responsiveness than parents of normal children (Malek Khosravi, 2003). Research of Salehi et al

(2005), based on the comparison of mental health of children's mothers with psychiatric disorders who most of them were reported hyperactivity disorder, showed that these mothers have more depression and anxiety and lower physical health and social functioning than normal children's mothers (Salehi, Salari Far, Hadiyan, 2005). According to the presented issues and the importance of psychological status of mothers in different walks of life and helping to improve their health, it seem necessary to be aware of mental health of children's mothers with ADHD. Therefore, this study attempt to determine whether there is significant difference between the mental health of children's mothers with ADHD and normal children's mothers.

### Methodology

The present study is a comparative study which examined the mental health between children's mothers with ADHD and normal children's mothers.

#### *Population and sampling method*

The statistical population of present study is children's mothers with ADHD in the age range of 8-10 years who were studying in primary school in education of four districts in Hamadan in academic year of 2001-2002 and have been identified by Conner questionnaire and through screening 100 children's mothers with ADHD were identified. In order to select normal children's mothers, the normal group was matched with the children's mothers with ADHD in terms of educational variables, age and economy. The following tables (1 and 2) show lack of significant difference in two groups regarding the aforementioned factors. After matching two groups, 100 normal children's mothers were selected. The SCL90-R questionnaire was used to assess the mental health of the mothers.

**Table 1. Frequency, Chi-square value and significant level of two groups according to educational status**

sig	Chi-square value	df	total	MA	Bachelor	Associate Degree	diploma	group
			100	2	16	17	65	ADHD
0/562	2/48	3	100	4	21	25	50	Normal
			200	6	37	42	115	Total

Results of table 1 show that there is no significant difference between operator couples to divorce and normal couples. Also, results of table 2 show no significant difference between two examined groups in terms of age and socioeconomic status variables.

**Table 2. Paired sample t-test of two groups based on age and income**

sig	t	df	SD	mean	N	Participants' age
0/29	1/32	198	9/21	28/64	100	ADHD
			4/81	30/24	100	Normal group
						Family's income
0/77	0/44	198	3/06	5/84	100	ADHD
			3/23	5/71	100	Normal group

### Research instrument

In this study, to assess subjects' mental health rate and evaluate their psychological symptoms, the revised list of mental symptoms of SCL90-R was used. SCL90-R list contains 90 questions and is used to measure 10 scales of mental disorder symptoms. Answers provided for each test material, at a 5-degree scale from "none" to "severe" determine discomfort level. These test measures 9 different dimension that including somatization, obsessive - compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, mental dyslexia. Scores above 63 on this test, indicate individual's lack of mental health (Khosravi, 2003). The final form of this questionnaire was prepared by Draghotic (1983). Its reliability was reported to be ranged from .77 to .90 (as cited in Nourbala, Ramezan Zadeh, Abedi Nia, Bagheri Yazdi, 2008). Its reliability in the studies done in Iran in all dimensions except aggression, phobic anxiety, paranoid ideation has been reported more than .80 (Homai, 2000). In the study of Modabernia & et al, the reliability of 9 dimensions of its Persian version was acceptable based on the Cronbach's coefficient .65. & .85 and test - retest between .87 & .93 (Modabernia, Shojaie, Tehranie, Falahi, Faghirpour 2010)

*Coners's Questionnaire (parent form)*: This questionnaire has been standardized by Coner et al in 1999, and contains two versions of 93 questions and 48 questions. In present study, the version of 48 questions was used. This version assesses 5 factors of behavior, psychosomatic, impulsive ADHD, anxiety, and learning difficulties. Parents score questions in the forms that are graded based on Likert, by using 4-item. The reliability of this questionnaire was obtained for total score ( $r=.75$ ) and for subscales of behavior, psychosomatic, impulsive - ADHD, anxiety - shy and learning problems ( $r=.84, .60, .80, .52, .84$  respectively), which is desirable in all except in the case of anxiety - shy. Cronbach's alpha coefficient for the total score was .73 and for subscales of behavior, psychosomatic, impulsivity - hyperactivity, anxiety - shy and learning problems is .94, .91, .70, .90 and .63.

### Results and Discussion

The following tables show the descriptive statistics for hyperactive group and healthy group.

**Table 3. Descriptive statistics for hyperactive group and healthy group**

healthy group		hyperactive group		
SD	M	SD	M	
0/60	0/71	0/32	3/30	Physical
0/57	0/76	0/59	3/31	Obsessive-compulsive
0/52	0/72	0/34	3/11	Interpersonal sensitivity
0/57	0/67	0/38	3/30	Depression
0/51	0/53	0/59	3/34	Anxiety
0/63	0/71	0/37	3/21	Aggression
0/49	0/42	0/44	3/23	Phobic anxiety
0/62	0/75	0/38	3/19	Paranoid thoughts
0/45	0/38	0/39	3/17	Psychosis

Results of table 3 show that mothers of hyperactive children have higher scores on the SCL90 test components. In order to compare the results, the mean difference of participants' scores in desired groups (mothers of normal and hyperactive children) multivariate analysis of variance was used. In order to test whether there is a significant linear correlation between dependent variables and the independent variables or not, the researcher selected statistic of Wilks' Lambda for calculation of F, among four statistics such as Pillai's Trace, Wilks' Lambda, Hotelling's Trace, and Roy's Largest Root.

**Table 4. Multivariate analysis on the components of mental health with regard to hyperactivity disorders as independent variable based on Wilks' Lambda**

Variable	df	F	Sig	Partial It squared
Mental health	9	1.94	0.001	.92

Based on the above table, we can say that the statistic of Wilks' Lambda with ( $F= 1.94$ ,  $P<0.01$ ), shows that the hypothesis of similarity of society's means based on the dependent variables for two groups can be rejected. However, in order to understand which variables are different, Analysis of Variance (ANOVA) between groups was used for data analysis.

**Table 5. Results of ANOVA for patient's and healthy children's mothers in mental health components**

Level	F	Mean square	Degrees of freedom	Total Square	Dependent variables	Sources of Variation
	0/001	1/06	263/93	1	Physical	Mental health
	0/001	742/97	245/13	1	Obsessive-compulsive	
	0/001	1/07	223/26	1	Interpersonal sensitivity	
	0/001	1/09	272/62	1	Depression	
	0/001	1/01	311/56	1	Anxiety	
	0/001	863/79	246/26	1	Aggression	
	0/001	1/40	310/74	1	Phobic anxiety	
	0/001	836/85	234/42	1	Paranoid thoughts	
	0/001	1/65	305/64	1	Psychosis	

As shown in Table 5, it can be seen that there is significant difference with 99% probability between mean scores of mothers of healthy and sick children in terms of physically obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychosis. According to mean difference contained in Table 1, we can conclude that this

difference is beneficial to healthy group and participants of healthy group have better status in proposed features. In this study, the mental health of children's mothers with ADHD compared to normal children's mothers. The obtained results of multivariate variance analysis indicates that the difference between the two groups of mothers in terms of SCLR-90 total score is statistically significant ( $p < 0/01$ ). In other words, children's mothers with ADHD in terms of mental health have had difference with other group and had a lower level of mental health. These findings are consistent with previous findings (Salehi, Salari Far, Hadiyan, 2005; Malek Khosravi, 2003). The birth and growth of the children is pleasure for parents, however this process associated with many sad and hardships. Despite the many problems that parents have for their children, it can be said that the hope of having a normal child usually makes them feel confident and relaxed mentally. But, as soon as the parents are informed of their child's problems, they will lose all their hopes.

Among children's mothers with ADHD who are closely connected to their children, due to special circumstances for maintenance and growth of these children and encountering to stresses such as emotional instability, disobedience, irritability, conflict, vandalism, inattention, impulsivity, etc tolerate lots of mental stresses. In general, these conditions can lead to isolation and lack of interest in relationships with the environment, low self-esteem, aggression, anxiety, frustration and depression that these factors undermine their normal function and consequently endangered their mental health. Among the findings of this study, we can refer to the significant difference in subscale of aggression, in a way that level of aggression in children's mothers with ADHD is higher. Since the problematic issues related to educational dimension of children with ADHD in a family, the most educational responsibility is on mothers. Due to the inappropriate feedback of children to their parents, lack of attention to orders, disobedience and lack of feel of responsibility, dealing with such behavior can cause aggression and negative reaction in the mothers.

Hyperactivity disorder is not a temporary problem, prolongation of treatment and diversification of the treatment on one hand, irregularities, lack of accompaniment of husband, frustration, loneliness, sadness, irritability, impatience and ill-treatment of children with ADHD on the other hand, brings the experience of depression for mothers.

So that depression is more common in these mothers. This finding is consistent with results of (Riyahi, Amini, Salehi Veysi, 2010). Other results of this study refer to significant difference in mutual sensitivity component. In a way that children's mothers with ADHD compared to normal children's mothers have higher mutual sensitivity in relationships. These findings are consistent with the results of (Riyahi, Amini, Salehi Veysi, 2010). Findings showed that anxiety of children's mothers with ADHD compared to normal children's mothers is higher, this finding is consistent with researches of (Biederman, & Faraone, 2005, Benderix, Nordstorm, & Sivbery, 2006, Kagan, Conger, Mussen, 2005). This could be due to the challenges of parenting and applying ineffective disciplinary techniques of easiness or strictness. On the other hand, unrest of children imposes some degree of anxiety on mothers in such a way that every moment expecting to hear about the bad behavior of their children. The explanation that can be stated for the significant difference of phobic anxiety in children's mothers with ADHD compared to normal children's mothers, is that the presence of a child with ADHD leads to an increase in special fears in family members, especially in mother, because of the notoriety or social status decreasing, fear of child's failure in social work and child's sabotage and the effects of child behavioral abuse on others. Also, due to the mothers' close familiarity with potential problems and risks that may threaten their children, so it is expected that the levels of phobic anxiety was higher in these mothers. This finding is consistent with findings of (Riyahi, Amini, Salehi Veysi, 2010). The results of this study have shown that there is a significant difference between groups of mothers in terms of obsessive - compulsive, and the rate of obsession -

compulsion is higher in children's mothers with ADHD. In this regard, results of studies (Riyahi, Amini, Salehi Veysi, 2010) indicate that externalizing disorders such as ADHD is a strong predictor for obsessive - compulsive disorder in mothers. Herein, it can be explained that symptoms of confrontation, impulsivity, restlessness and aggressive lead to child's obsessive and perfectionism behaviors to express his wants and make them to perform it in an excessive way.

Parents of children with ADHD children, along with their children are experiencing a lot of stress and psychological distress. It is clear that the younger the child, his psychological stress occurs by physical protests is much more. Riyahi, Amini, Salehi Veysi, 2010) showed some somatic complaints in children's mothers with ADHD are higher. This result is consistent with the results obtained from the study of Riyahi, Amini, Salehi Veysi, 2010). The results of present study indicate that children's mothers with ADHD are in higher levels of paranoid ideation. This finding is in line with the finding of the investigation (Riyahi, Amini, Salehi Veysi, 2010). Abuse behavior of child with ADHD on surroundings and family members, especially mother causing disruption thought order in mother, as far as, sometimes become pessimistic toward the child's behavior and think that the child deliberately wants to annoy her. And, a set of these problems such as aggression, depression, anxiety, obsessive - compulsive, phobia- anxiety, paranoid thoughts provide area for increasing of psychosis among children's mothers with ADHD which the research findings of Riyahi, Frogh. Amini, Fatemeh. Salehi Veysi, Mohammad (2010),and Narimani, Agha Mohammadiyan, Rajabi (2009) also confirms this ideal. Generally, according to the findings of this study and other researches that that are based on the most likely occurrence of anxiety disorders and depression, obsessive - compulsive, phobia-anxiety and psychiatric have intervention role of psychosis by mental health education of therapy group and even training of mothers for one session for reducing stress and optimal performance. It can be said that educational programs are necessary for the reduction of effect of maternal mental disorders and children on mental health of each other. The research of three type of hyperactivity is not separated precisely and they are included in one group. It is suggested in further research to investigate three type of hyperactivity separately.

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