

# Resilience of mothers of children with attention deficit hyperactivity disorder and its related underlying factors

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## Abstract

**Introduction:** The complications of attention deficit hyperactivity disorder (ADHD) affect the child and the parents.

**Objectives:** The present study is conducted with the aim of studying the resilience of mothers of children with ADHD.

**Patients and Methods:** This descriptive study was conducted in Tehran between the years 2016 to 2017. The sample of the study consists of mothers of children with ADHD. The sample size was 110 mothers. Connor and Davidson's resiliency scale was used in the present study.

**Results:** The mean score of resilience of mothers of children with ADHD syndrome was 65.7. The mean resilience score in individuals with high school diploma degree was 63.80 and in individuals with a diploma degree were 72.19. This difference between groups was statistically significant.

**Conclusion:** Based on the results of the study, the participants had a relatively moderate level of resiliency. Among the demographic variables which were studied, the level of education had a significant relationship with mothers' resilience and the levels of resilience of those with higher education were higher.

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## Introduction

Attention deficit hyperactivity disorder (ADHD) syndrome is one of the most common disorders in childhood that has negative effects on many aspects of children (1,2). This disorder, which is a type of neurobehavioral disorder, has a complex mechanism (3,4). These children experience symptoms such as lack of attention, hyperactivity and impulsive behaviors (4). A wide range has been reported for the prevalence of this disorder in Iran and worldwide. In a review study conducted in 2015, Thomas et al reported that the prevalence of this disease is 7.2% (5). Based on the reports of the US Centers for Disease Control and Prevention (CDC), the prevalence of ADHD syndrome in 2016 was reported to be around 9.4% between the age group of 2 to 17 years (6). Several studies have been conducted in Iran regarding the prevalence of ADHD syndrome. In a study conducted in 2015, Mostafaei et al reported, the prevalence of this disorder among 1000 schoolchildren is 11.3% (7). In another study conducted in this regard, Karimi et al

reported that the prevalence of this disorder among elementary school children is 7.7% (8).

Not only the complications of ADHD affect the child, but also cause the parents of the child to face with many problems. The results of a review study in 2010 showed that mothers of children with ADHD syndrome experience greater stress than other parents (8). The families of these children usually endure many physical and psychological problems and required to be addressed with appropriate coping mechanisms. One of these mechanisms is known as "resilience". According to the definition of the American Psychological Association, resilience is the process of adapting well in the face significant sources of stress in an individual's life. Resilience does not mean that the person has not experienced any distresses, but it means, she/he has been able to adapt to the stressful situations, based on his/her experience (9). Some of the factors influencing the resilience of the family of a child with ADHD syndrome is having appropriate social and family support. Appropriate resilience can

Mothers of children with attention deficit hyperactivity disorder have a moderate level of resilience. Mothers level of education affect their level of resilience.

bring many benefits to the parents of these children (2) to improve mental health (10).

## Objectives

Background information in regard to resilience of parents of a child with ADHD syndrome can be addressed in the health and care planning programs used by health team members. However, there are limited studies in the families of children with ADHD syndrome. Therefore, the present study is conducted with the aim of studying the resilience of mothers of children with ADHD.

## Patients and Methods

### Patients

This study, which is a descriptive study, was conducted in Tehran between 2014 to 2017. The sample of the study consists of mothers of children with ADHD. The sample size was 110 and they were all selected from mothers attending the psychiatric centers under the supervision of Tehran University of Medical Sciences. Participants met the inclusion criteria if they had a child with ADHD syndrome who was diagnosed for at least six months, did not have any chronic and well-known psychological and physical diseases, aged between 18 and 50 years and did not experience any severe stresses such as death or divorce, and did not take care of another patient.

The purposes of the study were outlined by researchers after the selection was done. They were then asked to complete the consent form. Subsequently, questionnaires were contributed to them to complete the requested information within 30 minutes. Connor and Davidson's resiliency scale was used in the present study. This scale is a 25-items questionnaire that is developed to assess the coping power with pressure and threat. The psychometric properties of the resiliency scale were studied in six groups; general population, attenders in primary care, outpatient psychiatric patients, patients with generalized anxiety disorder, and two groups of post-traumatic stress disorder patients. The developers of the "Connor and Davidson Resiliency Scale" believe this scale is well suited for distinguishing those who are resilient to non-stressors from those who are not resilient in clinical and non-clinical groups, and can be used in research and clinical settings. Each question is answered on a 5-Likert scale. A total score of less than 50 represents a low resilience, a score between 50 and 75 represents a moderate resilience and a score of over 75 represents a high resilience. On the whole, a higher score, in Connor and Davidson's resiliency scale, denotes a higher resilience. Based on previous studies, the validity and reliability of this questionnaire have been determined to be desirable (11). The demographic data of mothers were examined using a researcher-made checklist as well.

## Ethical issues

The research followed the tenets of the Declaration of Helsinki. Ethical clearance was obtained from the institutional ethical committee (ethics code: 91111960431). Informed written consent was obtained from all the study participants.

## Statistical analysis

Data were analyzed using the Statistical Package for the Social Sciences (SPSS) and descriptive and inferential statistics were performed to analyze the data. The significance level ( $P$  value) in all tests was considered to be less than 5 hundredths.

## Results

The demographic variables of the mothers studied are presented in Table 1. The mean score of resilience of mothers of children with ADHD syndrome was 65.7. The correlation coefficient was estimated and simple linear regression was used as well to study the relationship between age and resilience, and the effect of age on the resilience of mothers of children with ADHD syndrome. The results showed that resiliency has no significant relationship with age ( $P=0.379$ ). The results of  $t$  test showed that the mean score of resilience of single individuals is equal to 63.80 and in married individuals is equal to 65.86. Based on independent  $t$  test, the difference between the mean score of two groups was not statistically significant. The mean

Table 1. Demographics characteristics of mothers in present study

Variable	Levels	Number	Percent
Age (years)	Lower than 31	17	15.5
	31-40	66	60.0
	41-50	20	18.2
	Above 61	7	6.4
Gender	Female	110	100
	Male	0	0
Marital status	Single	2	1.8
	Married	104	94.5
	Divorced	3	2.7
	Widow	1	0.9
Education	Illiterate	2	1.8
	Under high school diploma and diploma	82	74.5
	University	26	23.6
Employment status	Housemaid	95	86.4
	Employee	15	13.6
Economic status	Good	8	7.3
	Average	87	79.1
	Weak	15	13.6
Number of family members	2-3	39	35.5
	4-5	65	59.1
	6 and above	6	5.5
Sex of patients	Female	26	23.6
	Male	84	76.4
Care duration (y)	0-4	61	55.5
	5-9	40	36.4
	10-15	9	8.2

resilience score in individuals with high school diploma degree was 63.80 and in individuals with a diploma degree was 72.19. The statistical value of the test to examine the hypothesis of equality of mean scores of resilience- taking into account the equality of variance of two societies- is equal to -2.122 that according to *P* value ( $P=0.036$ ), the hypothesis of equality of mean scores of resilience in the two groups of high school diploma degree and diploma degree is not equal to each other and those with a diploma degree had significantly higher resilience scores than other group.

### Discussion

The present study is conducted with the aim of studying the resilience of mothers of children with ADHD. Based on the results of the study, the participants had a relatively moderate level of resiliency. Among the demographic variables which were studied, the levels of education only had a significant relationship with maternal resilience and the levels of resilience of those with higher education were higher.

The stress of having a child with ADHD syndrome can cause severe stress in parents and results in psychological disorders (12). Resilience is one of the positive types of coping mechanisms that an individual can use to overcome any stressful situations, especially prolonged stressful conditions, such as taking care of a child with ADHD syndrome. There are limited studies in relation to resilience of parents of a child with ADHD syndrome. In a study conducted in 2014 in Qazvin, Haji Seyed Javadi et al studied the effects of a training course on the resilience of mothers of a child with ADHD syndrome. The sample of their study consists of 22 mothers. Similar to the present study, the same questionnaire was used to examine the resilience levels. The mean score of resilience of mothers in the study was 45.5 and 73.9 before and after the intervention and the follow-up, respectively. The results showed that mothers of children with ADHD syndrome have a relatively modest level of resilience even after an educational intervention (13). In another study conducted in 2016, Khademloo et al studied the relationship between mental health and resilience among mothers of children with ADHD syndrome. In this study, 155 mothers of children with ADHD syndrome were selected to be studied. Similar to the present study, Connor and Davidson's resiliency scale was used to examine the resilience levels. The results of Khademloo et al showed that the mean score of resilience in participants was 72.2 that represents a moderate level of resilience in them while these results are similar to the results of the present study (2).

Enhancing the resilience levels of mothers of children with ADHD syndrome can make them more compatible with the problem and improve their quality of life. Due to the treatment-based approach of the healthcare system in Iran, many of the mentioned families do not usually receive the necessary advice and therefore confront a lot

of challenges. This group of people can be the target of active health and nursing teams in the community health-care system. The community-level health-care teams can recognize these families and provide them the required interventions in relation to screening for resilience. Considering the positive psychological concepts, including resilience in raising the level of knowledge, achieving positive skills in coping with problems, can be a step towards improving the mental health of parents, the family, and thus the people. Resilient solutions such as increasing the level of resistance to the problems of children with ADHD syndrome, having psychological diseases as well as increasing the level of positive emotions toward these children, understanding the positive ways of interpreting children with hyperactivity can be applied in this regard.

### Conclusion

Monitoring the mothers of a child with ADHD is very important. In the present study, the results showed that these mothers have a moderate level of resilience. Regarding the effects of resilience on mental health of mothers of children with chronic health problems, it is recommended that necessary interventions be taken to promote and improve their resilience. Also, due to the limited similar studies, it is recommended that other similar studies be conducted in mothers and fathers of children with ADHD syndrome. Qualitative studies can be useful in this regard as well.

### Limitations of the study

The present study has some limitations. One of these limitations is that the study only conducted in mothers who were attending a health center that affect the generalizability of the results. Using only a self-report questionnaire to study the level of resilience of mothers is another limitation of this study.

### Authors' contribution

MRK: Supervision of study, study design and manuscript writing. NS: Study design, data analysis and manuscript writing. SHO: study design, data collection, data analysis, manuscript writing and manuscript submission, SN: data analysis and manuscript writing. EA: data collection and analysis. All authors read and signed the final version of paper.

### Conflicts of interest

The authors declare that they have no conflict of interests.

### Ethical considerations

Ethical issues (including plagiarism, data fabrication, double publication) have been completely observed by the authors.

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