

Depression, Anxiety, Stress, and Resiliency in Iranian Families with Autistic Children

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Abstract

Background

Autism is a chronic, debilitating condition that begins in childhood and is associated with burnout and sometimes even depression and anxiety in families. The main objective of this study was to investigate the relationship between resilience and anxiety-depression-stress among families of children with autism in 2018.

Materials and Methods

In this cross-sectional study, after the Ethics Committee approval, according to the calculated sample size, 137 members of the families of children with autism were selected randomly. They were self-questioned themselves by family resilience scale, and also DASS-21 questionnaires, along with the checklist of variables such as number of family members, marital status, educational level, income, background of physical and mental disorders, age and sex. After data collection, they were entered into and analyzed by MS Excel and SPSS V.24 software.

Results

The mean age of the subjects was 40.67 years (± 9.12) with the range of 42 years. 80 persons (58.4%) were female and 57 (41.6%) were male, most of who had a bachelor's degree (51.7%), and generally were married (78.8%) (Living with family). They often had a history of chronic physical (84.7%) or mental illness (95.6%). The mean of the family resilience scores was 193 (± 25) and its range was 124. There was no significant correlation between age/gender and resilience, but depression, anxiety and stress were related to the level of resiliency. Regarding the rate of depression, 51.8% were normal, 10.2% had mild depression, 22.6% had moderate depression, 10.2% had severe depression and 5.1% had very severe depression; income and history of mental illness were significantly associated with depression. In addition, the level of anxiety was 46% normal, 8% mild, 17.5% moderate, 11.7% severe and 16.8% very severe. The number of family members, educational level, income, and history of mental illness had a significant effect on people's anxiety. Also, the stress status of the studied samples were 43.8%, 12.4%, 26.3%, 10.9% and 6.6% normal, mild, moderate, severe and very severe, respectively. The level of education, income, history of mental illness and gender were statistically significant with the level of stress among individuals.

Conclusion

Based on the results of this study, it is concluded that family resilience is a factor that directly correlates with the level of depression, anxiety and stress among the family members of the autistic children. It is

therefore advisable to increase this ability of individuals in various ways, such as training, counseling, support groups, and etc.

Introduction:

During recent decades, resiliency is considered one of the components of a person's ability to cope with mishaps and hard days of life. Resiliency is the process of persons' empowerment during stressful situations; Therefore, in most cases, preventing negative behavior and thinking. Which would result in positive outcomes despite everything[1]. It is also known as a protective factor in the science of behavior. Individuals, with resilience ability, will often return to their normal behavior after such a pressurizing situation [2]. This concept also applies to family, which is defined as the ability of families to return from crises[3]. To understand the basic concept of resilience in the sense of this issue, resilience is the reason why some families ruin in the face of disasters such as the illness, disability, or the loss of family members, but others adapt to the new circumstances[4].

From the systemic perspective, a person's illness/disability has an impact on the whole family and could turn the course of events and decisions over time[5]. One of these conditions is autism, a disorder characterized by repetitive restricted behaviors and deficits in communication and social skills. Symptoms, based on diagnostic criteria of DSM V, are deficits in social interaction, and communication skills, and restricted behavior, movements, and interests[6]. Even a few months after birth, they have faint eye contact or avoid it. They don't want to be hugged, kissed, or caressed by family members. Sometimes some of them do not experience separation anxiety in unfamiliar environments, and social cues such as a smile, a handshake, or a wink are meaningless for them [7].

In general terms, social interactions, and the ability to interact with others are not their strong suit. Due to social immaturity, they are not able to make and sustain friendships. At puberty, they have sexual desires but lack the social skills to develop into sexual relations. Also, the failure of mimicking the behaviors of others is seen in the majority of these children[8]. So, their families are under challenging circumstances, and mental pressure and anxiety caused by having children with disabilities[9, 10]. Mothers of these children experience much higher concerns in a chronic way, which could lead to depression in the long-term[11]. This state of depression and anxiety can reduce the mental health of parents, which can lead to ineffective family functioning[12, 13]. One of the acquired psychological characteristics that can reduce family anxiety is Resiliency. Given the importance of the role of resilience as protective factors in living conditions of families with autistic children against depression, and anxiety, knowing their psychological conditions can play an important role in improving their quality of life. So we decided to examine the resilience of families with autistic children and study its relationship with anxiety, depression, and stress.

Materials And Methods:

This is an analytical cross-sectional study, that was done between September to November 2018. Our study population was the parents of students with autism who were studying in a special school for

these children. The criteria for entering this study was considered 1) Announcement of consent to participate in this research 2) Parents or family members of children with autism who was responsible for their care. After the Ethics Committee approval, according to the calculated sample size, 137 members of the families of children with autism were selected. Due to the possibility of non-cooperation of some parents, 160 cases were extracted. The children's files were selected from the files in the school by simple random sampling. Their parents were contacted and asked to participate in our research. Checking variables were age, sex, resilience Score, number of family members, marital status, educational status, income, history of mental and physical illnesses, and anxiety, depression, and stress scores. Participants completed three questionnaires in one session

Measures:

“Family Resiliency Scale”:

This scale was used to assess family resilience. It has three main domains, including: family belief system, family organization system, and problem-solving processes. This questionnaire has 66 questions. Each question could be scored from 1 (lowest) to 4 (highest) ..Its reference range is from 66 to 264; the higher the score, the more family resilience.

“Family Resiliency Scale” developed in 2005 based on Walsh's theory. And the psychometric evidence was confirmed by Sixbey. Reliability of this scale using Cronbach's alpha method and its validity using construct validity, Predictive and concurrent criterion validity has confirmed.[14] The Persian version was evaluated by Dr. Dadashi and colleagues in a research correlational study. After preparing a questionnaire according to Iranian society with both exploratory and confirmatory methods, its validity was confirmed by the principal component method and its reliability was confirmed by Cornbrash’s alpha method.[15]

DASS-21 questionnaire: this questioner evaluates three domains, including anxiety, stress, and depression. The original version has 42 questions, but because in this study resilience questionnaire was also used, the shortened version with 21 questions was selected to accelerate the data collection process. Each domain contains 7 questions, which could be scored from 0 (never), 1 (slightly), 2 (sometimes), and 3 (Always) [16]. Since this questionnaire is a shortened form of scales (42 questions), the final score of each subscale must be doubled. According to the following scales, the status of each subscale is as follows:

Table 1
Scoring scales of DASS

severity	depression	anxiety	stress
normal	0–9	0–7	0–14
mild	10–13	8–9	15–18
moderate	14–20	10–14	19–25
sever	21–27	15–19	26–33
very sever	27<	19<	33<

Data analysis:

After data collection, they were entered into and analyzed by SPSS V.24 software. The significance level (P Value) was considered less than 0.05. In the descriptive analysis of the results, the frequency and percentage and central indices of mode and mean and the index of distribution of standard deviation and range were used. To analyze data from single-variable analysis methods such as chi-square test and independent T-test and two variables

Results:

In this study, a total of 137 members of the families of custody of the children with autism studied in 2018. 80 (58.4%) of people in the study were female, and 57 (41.6%) were male. Age average was 40.67 years (± 9.12), which varied from 18 to 60.

The number of family members (who now live together) ranged from 2 to 7; most of whom were married and lived with their families, and did not have chronic medical/psychological conditions. The distributions were as follows:

Table 2
Distribution of family members

Number of family members	Frequency	Percentage
2	5	3.6
3	43	31.4
4	60	43.8
5	22	16.1
6	4	2.9
7	3	2.2

Table 3
Distribution of chronic medical/psychological conditions

Condition	Status	Frequency	Percentage
Medical	Currently diagnosed.	19	13.9
	Treated.	2	1.5
	No history.	116	84.7
Psychiatric illness	Currently diagnosed.	4	2.9
	Treated.	2	1.5
	No history.	131	95.6

Table 4
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Also DASS-21 questionnaires results were gathered in this table.

Table 5
DASS-21 questionnaires results

Status	Depression Sub-Domain		Anxiety Sub-Domain		Stress Sub-Domain	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Normal	71	51.8	63	46.0	60	43.8
Mild	14	10.2	11	8.0	17	12.4
Moderate	31	22.6	24	17.5	36	26.3
Severe	14	10.2	16	11.7	15	10.9
Very Severe	7	5.1	23	16.8	9	6.6
Abnormal Total	66	48.2	74	54	77	56.2

To test the parametric characteristics of our variables we used Kolmogorov-Smirnov test, which reported that only the family resilience score questionnaire had normal distribution ($P = 0.2$). To analyze the relationship between of qualitative variables, and depression, anxiety, and stress, Chi-square test was used.

Table 6
Chi-Square test of DASS-21 questionnaire with qualitative variables

Variable	Depression Sub-Domain		Anxiety Sub-Domain		Stress Sub-Domain	
	Significant Relevance	P Value	Significant Relevance	P Value	Significant Relevance	P Value
Number of Family Members	-	0.248	+	0.016	-	0.181
Living Pattern	-	0.447	-	0.629	-	0.648
Education Status	±	0.085	+	0.002	+	0.011
Income	+	0.041		0.000	+	0.023
Medical Condition	-	0.834	-	0.423	-	0.645
Psychological Condition	+	0.000	+	0.000	+	0.000
Sex	±	0.057	-	0.137	+	0.007

In addition, both age and sex had no significant correlation with family resilience score according to Kendall's ($P = 0.562$), Spearman's test ($P = 0.616$), and Independent Sample t test ($P = 0.701$), respectively. Due to normal distribution of the family resilience score, One Way ANOVA test used to determine its relationship with qualitative variables. Analysis of variance is a set of statistical models that can investigate the difference between mean groups (more than three groups) and categories, so that these averages can be compared. Since in this test, if P value is less than 0/05 it is possible to find a significant relationship between variables, According to the results in the table, it seems that anxiety and depression were highly correlated with resiliency($P = 0/000$), with mild to moderate resilience rates being higher among higher groups.

Table 7
One Way ANOVA test of the family resilience score

Variable	Significant difference of average family resilience score among the subgroups of variables	P Value
Number of Family Members	-	0.495
Living Pattern	-	0.118
Education Status	-	0.431
Income	±	0.078
Medical Condition	-	0.415
Psychological Condition	-	0.465
Sex	±	0.000
Depression	+	0.002
Anxiety	+	0.000
Stress	+	0.495

Discussion:

As previously mentioned, this study was carried out to review, and assess Family Resilience's impact on depression, anxiety and stress. A total of 137 members of the families of autistic children were enrolled in our study, whose age mean were 40.67 years (± 9.12). 80 female (58.4%), and 57 male (41.6%), most of whom had at least a bachelor degree (51.7%), and generally were married and with living their families (78.8%), with no chronic physical (84.7%) or psychological (95.6%) conditions. Mostly (42.3%), they had approximate income of 10 to 30 million IRR. Based on data from the Statistical Center of Iran, average income of an urban household in the years of 2016 and 2017 was approximately 37 million IRR in Tehran[16], Given the current economic conditions of Iran in 2018 the average income of our study members is considered as below-average, and low income.

Regarding their psychological status, 48.2% had depression (mild to severe), 54% had anxiety, and 56.2% had stress, which is much higher rates than normal population of Tehran according to Nazari's study[18]. Income, psychological conditions, educational degree, and gender were risk factors for both depression and stress. Also Altemus stated that gender is an important factor for depression, so that the probability of this disorder in women is higher and in the event of illness they show more severe symptoms from the onset[19]. Nevertheless, Nazari's results were corroborative with ours regarding to educational status effect[18]. Number of family members, educational degree, income, and psychological conditions had a significant effect on people's anxiety. Other studies such as Mcleen's et al., and Altemus's et al. observed that the ratio of male/female in all of the anxiety disorders were not close to each other, which violates

the current study results[19,20]. In addition, Verma's study stated that stress and stress response differ between men and women[20]. In the study of the prevalence of psychiatric disorders in Iran, conducted by Sharifi et al., anxiety disorders were the most prevalent disorder with 15.6% frequency[22], Which is much less than our samples statistics. Sareen et al. also reported that low income or a reduction in income can directly lead to mental disorders, such as depression and anxiety[23].

Furthermore, our findings showed that family resiliency average score was 193 (\pm 25). There was no significant correlation with either age or gender. Which is in contrast with Kavaliotis study, indicating that sex has a different relation to the family resilience levels, as the men show lower scores in comparison with women[24]. But depression, anxiety and stress were related to the level of resilience, in a way which normal groups got higher scores than abnormal groups. It appears that having more powerful resilience ability contributes to lower depression, anxiety and stress levels. In confirmation, Abir's et al. study found that ASD children parents who have the resiliency indices are able to be solving problems associated with child care better than the others[25]. In this regard Plumb et al. results showed that families of ASD children experience high levels of stress. But resilient families had lower levels[26]. Plus, another study noted resilience as a preventive factor to depression and also to bitter experiences[27].

Finally, one limitation in this research was limited accessibility to sample family members. Nevertheless the measurements of the variables were based on self-assessment, which makes it less controlled and standardized. We propose the use of different kind of assessment such as interview for future studies. In addition, this study recommends that future curricula should be designed to increase the level of resilience of individuals, and have a before-after training tests for depression, anxiety and stress status to determine their changes. It is also essential to assess family functioning as for resilience increase.

Conclusion:

From the results of this study, we can conclude that family resilience is one of the important factors that directly affects the level of depression, anxiety and stress among the family members of the autistic children. Therefore it is recommended to meliorate this ability in family members by various means such as training, counseling, support groups, and etc.

Declarations

Aknowledgment:

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Author Contributions:

MAH and FH designed the study, conducted the review and performed the data analysis. FSH, and MAA assisted in the study design and data analysis. FH, and FSH interpreted the data and drafted the

manuscript. All authors read and approved the final manuscript before submission

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Availability of data and materials:

All data and material are available at the Department of Psychiatry, Faculty of Medicine, Iran University of Medical Sciences

Ethics approval and consent to participate:

The study was approved by the Ethics Committee of the Iran University Medical Sciences under number IR.IUMS.REC.1397.110. All participants (members of the families of children with autism) were informed about the study and only those providing written informed consent were enrolled in the study.

Consent for publication :

Not applicable

Competing interests:

The authors declare that they have no competing interests

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