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A COMPARISON OF MENTAL HEALTH, QUALITY OF LIFE, AND HAPPINESS IN MOTHERS OF CHILDREN WITH AUTISM SPECTRUM DISORDERS VERSUS MOTHERS WITH HEALTHY CHILDREN

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ABSTRACT: Introduction: Autism spectrum disorders (ASD) are a group of mental problems that interfere with social interaction skills, and behavioral spectrum. ASDs are one of the most prevalent developmental disorders among children. The purpose of this study was to examine the mental health, quality of life, and happiness in mothers who had ASDs children and compare them with mothers having healthy children. **Materials and Methods:** This is a descriptive-analytic study. The population consisted of all mothers of children with autistic spectrum disorders (ASD) in Guilan province. The samples were determined through convenience sampling. We included 90 mothers whose children were identified with autism according to DSM5 criteria based on the clinical diagnosis of the child and adolescent psychiatrist and 90 mothers of children with no psychological complaint. The two groups were matched regarding demographic characteristics. The mothers of both groups completed a demographic questionnaire, the Symptom Checklist-90-R (SCL-90-R), the SF-36 Quality of Life Questionnaire, and the Oxford Happiness Questionnaire. The results were analyzed using descriptive statistics (*i.e.*, mean, standard deviation) and inferential statistics (*i.e.*, correlation and MANOVA). **Results:** There was a significant difference between the two groups regarding mental health components so that mental health was better in mothers with healthy children than those with ASD children ($P < 0.001$). Also, quality-of-life components in mothers with healthy children were higher than that of mothers with autistic children ($P < 0.001$). Finally, the average happiness in mothers with autistic children was lower than those with healthy children ($P < 0.001$). **Conclusion:** Having a child with special needs imposes a heavy psychological burden on parents. In this regard, considering the educational programs for families of children with ASD, help to alleviate the problems of these families.

INTRODUCTION: Autism spectrum disorders (ASD) are characterized by widespread damage to various areas of growth, as they disrupt social interaction skills, communication skills, behavior, interests, and stereotypical activities¹.

According to the Autism and Developmental Disabilities Monitoring (ADDMM) Network, about 1 out of 68 children is diagnosed with ASD. This increase in the prevalence of ASD has become a public health concern².

Formerly, children with ASD were discriminated from those with Asperger syndrome (a Pervasive developmental disorder) regarding other unspecified considerations³. Today, Pervasive developmental disorders are regarded on a single continuum, on the one side of which children with a normal social function and linguistic expression

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as well as flexible behaviors are allocated, and on the other side children who are socially absorbed into their activities and divorced from a constructive contact with reality are placed⁴. It has been estimated that over two million people in the United States grapple with ASD, and it has affected tens of millions of people globally. ASD affects approximately 1% of 8-year-old children, and boys are disproportionately more likely to develop this condition than girls (ratio = 4.5 to 1). Samadi *et al.* reported a rate of 6.26 per 10,000 out of 1.32 million 5-years-old Iranian children who went through the screening programmed for autism in the three academic years from 2006 to 2009⁵. Also, Samadi and McConkey reported the prevalence rate for ASD was 77 per 10,000 and for autism was 15 per 10,000 Whereas for children aged 4 and 5 years, the prevalence rate for ASD was 110 per 10,000 and for autism, it was 55 per 10,000⁶.

The family is the first and most important communication system for children. All members contribute to the mental health of the family as it is the main source of care and support⁷. The family has always been considered one of the key systems that play a crucial role in the physical and psychological well-being of children. Families are responsible for teaching children and helping them achieves their autonomy, and developing a healthy communication style between the members in general⁸.

Caregivers in the family can play a decisive role in supporting members who have ASD. However, the health of families with ASD is rarely the focus of researchers and policy-makers⁹. Clinically, most care systems are organized to fulfill the needs of patients themselves, whereas the needs of caregivers are scarcely addressed¹⁰. Caring for an ASD person may be problematic for families due to the nature of the main symptoms of the disorder, which are associated with the disruption of social interaction and communication and limited or stereotypical behaviors¹¹. ASD exerts a multifaceted and general influence on the mental health of all family members, especially the mother, and it upsets the balance in the family system¹². The features of this disorder, late and difficult diagnosis, lack of definitive and effective treatments, as well as an unfavorable prognosis can

impose a severe psychological pressure on the child's family¹³. For example, these mothers usually experience low levels of self-esteem, mental health, and life satisfaction, suffer from stress to a greater extent and reveal depression symptoms more frequently¹⁴.

The child's chronic problems, anxiety about his/her future, social isolation, delayed diagnosis, difficulty in coping with the diagnosis and its accompanying symptoms, and poor access to health services and social support cause the mothers of these children to experience high levels of stress. Autism has a severe impact on family dynamism as it doubles the pressure on caregivers, especially mothers. Studies have reported this pressure as one of the major challenges of the family in general and mothers in particular¹⁵. Some have observed higher levels of destructive emotions among these mothers than mothers with normal or other exceptional children¹⁶.

In a study aimed at investigating the psychological health between two groups of parents of children with ASD and parents of children with other developmental problems, it was shown that parents of ASD children had more anxiety symptoms (including negative self-esteem and low satisfaction with their parental role as parents) and experienced child's behavioral problems, signs of depression, and avoidance-coping strategies more frequently than the other group; besides, they had a lower score with respect to the mental health index¹⁷.

It is considering that there have not been many types of research in this field in our country, given the numerous pressures that families of ASD children, it is important to take account of the mental issues of these families. By studying the psychological concerns of these families, it is possible to provide psychological interventions to mitigate and overcome such problems. Therefore, the purpose of this research has been to address this fundamental question of whether mental health, quality of life, and happiness vary between mothers with autistic children and others with healthy children.

Method: The present study has employed a descriptive-analytic method. The statistical population included all mothers with ASD children in Guilan province, Iran who had referred to the

Shafa Hospital and the Private Child and Adolescent Psychiatry Clinic in Rasht (2017).

The sample was determined through convenience sampling. In this regard, 90 mothers of children who were diagnosed with ASD *via* DSM5 criteria and the examination of a child and adolescent psychiatrist were selected as the case group, and 90 mothers of children without psychological complaints who had no history of referring to the psychiatrist were considered as the control group. Having obtained the approval of the Ethics Committee (code IR.GUMS.REC.1394.100) and the informed consent of mothers, the authors matched the two groups regarding demographic characteristics (age and educational level and *et al.*). Mothers in both groups completed the demographic questionnaire, the Symptom Checklist-90-R (SCL-90-R), the SF-36 Quality of Life Questionnaire, and the Oxford Happiness Questionnaire.

The descriptive statistical analysis included mean, standard deviation, and variance while the inferential statistical analysis consisted of an independent t-test of difference and multivariate analysis of variance (MANOVA). The inclusion criteria were: having a child with ASD for the case group and not having a child with a psychological disorder for mothers in the control group. Alternatively, the exclusion criteria were: a history of serious psychiatric illness in mothers or chronic medical problems in the child.

Data Collection Instruments:

The Symptom Checklist-90-R (SCL-90-R): In this study, SCL-90-R was used to assess the mental health of the mothers. This tool was designed by Derogatis *et al.*, (1972). It includes 90 questions for evaluating psychological symptoms that are reported by the respondent. It was first used to illustrate the psychological aspects of physical and mental patients. The response to each of the test questions is scored based on a 5-point scale which indicates the degree of experiencing discomfort ranging from "not at all" to "extremely." The 90 items of this test covers 9 different aspects of Somatization (SOM), Obsessive - Compulsive (OBS), Interpersonal Sensitivity (INT), Depression (DEP), Anxiety (ANX), Hostility (HOS), Phobic Anxiety (PHOB), Paranoid Ideation (PAR), and

Psychoticism (PSY). The test is scored and interpreted based on three indicators of the Global Severity Index (GSI), the Positive Symptom Distress Index (PSDI), and the Positive Symptom Total (PST). To determine the prevalence of psychiatric symptoms in each dimension, the cutoff point of 2.5 is used, and the mean score is estimated at 2.5. Any score exceeding this value is regarded to suggest a disease in the related dimension^{18,19}.

The 36-Item Short-Form Health Survey (SF-36):

Ware and Sherbourne designed the 36-item form of this questionnaire in 1992 in the United States. Its validity and reliability have been studied in various patient groups. The concepts measured by this questionnaire are not confined to specific ages, groups, or illnesses. The purpose of this questionnaire is to gauge both physical and mental health status, which is calculated by combining the scores of its eight components of health. This instrument is featured by 36 questions that assess eight different areas of health including physical functioning, role constraints caused by physical health status, role constraints caused by emotional problems, fatigue or vitality, emotional health, social functioning, bodily pain, and general health perceptions. The lowest score is zero, and the highest is 100. The score for each scale varies from zero to 100, such that zero shows the worst and 100 represents the best situation. The score of each dimension is achieved by the score of the titles subscales in that dimension^{20,21}.

Oxford Happiness Questionnaire (OHQ): Argyle and Lu prepared this questionnaire in 1989, and its last edition consists of 29 items. Each of the questions in this test has 4 options that include 0 to 3 points. Thus, the maximum total score of the test is 87²⁰. This questionnaire, revised by Hills and Argyle (2001), evaluates psychological constructs related to sociability, extraversion, kindness, joy and elation, meaningful life, self-efficacy, self-esteem, self-acceptance, physical health, autonomy, sense of control, and sense of finding beauty in one's neighborhood^{20,22}.

RESULTS: Table 1 shows the demographic characteristics of participants in research. **Table 2** presents the mean and standard deviation of the mental health variable and its components in two

groups of mothers with ASD children and mothers with healthy children. To analyze the data, multivariate covariance analysis (MANOVA) was employed. In this analysis, the scores of mental

health and its components were considered as dependent variables, and the two groups (mothers with ASD versus healthy children) were treated as independent variables.

TABLE 1: DEMOGRAPHIC CHARACTERISTICS OF SAMPLES EXAMINED IN THE STUDY

Demographic variables		Total	Mothers with ASD children	Mothers with healthy children
		Frequency (percent)	Frequency (percent)	Frequency (percent)
Children's gender	Boy	118 (65.6)	59 (32.8)	59 (32.8)
	Girl	62 (34.4)	31 (17.2)	31 (17.2)
Mothers' age	20-25	4 (2.2)	2 (1.1)	2 (1.1)
	26-30	31 (17.2)	15 (8.3)	16 (8.9)
	31-35	50 (27.8)	25 (13.9)	25 (13.9)
	36-40	68 (37.8)	32 (17.8)	34 (18.9)
	41-45	16 (8.9)	8 (4.4)	8 (4.4)
	46-50	6 (3.3)	3 (2.8)	5 (1.7)
	50+	5 (2.8)	3 (1.7)	2 (1.1)
Mothers' education	Diploma	95 (52.8)	48 (3.3)	47 (3.9)
	Higher than diploma	85 (47.2)	42 (23.3)	43 (23.9)
Mothers' occupation	housewife	50 (27.8)	25 (13.9)	25 (13.9)
	employee	130 (72.3)	65 (36.2)	65 (36.1)
Children's age	Less than 5 years	48(26.7)	23 (12.8)	25 (13.9)
	5-10	66(39.7)	34(18.9)	22 (12.2)
	11-15	56(31.1)	23(12.8)	33 (18.3)
Child's birth order	More than 15 years	20 (11.1)	10 (5.6)	10 (5.6)
	First child	95 (52.8)	48 (26.7)	47 (26.1)
	Second child	43(23.9)	22 (12.2)	21 (11.7)
	Third child	41(22.8)	19(10.6)	22 (12.2)
The number of children	Fourth child	1 (0.6)	1 (0.6)	0(0)
	One child	95 (52.8)	47(26.1)	48 (26.7)
	2 child	67(37.2)	35(19.4)	32 (17.8)
	3 child	17(9.4)	7(3.9)	10 (5.6)
	4 child	1 (0.6)	1 (0.6)	0 (0)

TABLE 2: THE MEAN, STANDARD DEVIATION, AND THE RESULTS OF MULTIVARIATE ANALYSIS OF THE AVERAGE OF MENTAL HEALTH AND ITS COMPONENTS IN THE TWO GROUPS

	Mothers with ASD children	Mothers with healthy children	P	Effect size
	Mean ± SD	Mean ± SD		
Quality of Life				
Physical function	28.93 ± 4.00	38.57 ± 3.43	0.889	0.004
Role constraints caused by physical problems	4.96 ± 1.31	5.03 ± 1.21	0.000	0.282
Role constraints caused by emotional problems	3.7 ± 1.09	3.82 ± 1.03	0.000	0.244
Fatigue and vitality	17.7 ± 1.91	19.60 ± 2.39	0.01	0.071
Emotional health	21.56 ± 3.76	29.51 ± 3.00	0.289	0.024
Social Performance	16.35 ± 1.06	8.14 ± 0.99	0.215	0.029
Pain	5.13 ± 2.93	5.81 ± 2.72	0.022	0.061
General health	16.27 ± 2.21	19.92 ± 1.08	0.372	0.020
Total Quality of Life Score	107.23 ± 5.83	117.71 ± 5.36	0.348	0.021

Table 3 shows the mean and standard deviation of quality of life and its components in the two groups of mothers with healthy and ASD children. Also, MANOVA was used to analyze the scores of quality of life and its components. There is a significant difference between the two groups regarding quality of life components. Multivariate analysis of variance was used to determine those components of quality of life that vary between the

two groups. The results suggested that the mean scores of the components of role constraints caused by physical health status, role constraints caused by emotional problems, and bodily pain are greater in mothers with healthy children than those with ADS children. These findings demonstrate that there is a significant difference between the two groups of mothers with healthy and ASD children about these components.

TABLE 3: MEAN, STANDARD DEVIATION, AND THE RESULTS OF MULTIVARIATE ANALYSIS OF THE AVERAGE OF QUALITY OF LIFE AND ITS COMPONENTS IN TWO GROUPS

	Mothers with ASD children	Mothers with healthy children	P	Effect size
	Mean \pm SD	Mean \pm SD		
Mental health				
Somatization	27.70 \pm 7.12	21.74 \pm 7.05	0.001	0/18
Obsessive-Compulsive	25.91 \pm 6.52	18.34 \pm 8.59	0.001	0.1
Sensitivity to interactions	24.51 \pm 6.17	19.18 \pm 7.73	0.001	0.19
Depression	35.66 \pm 10.67	27.48 \pm 12.12	0.001	0.22
Anxiety	28.51 \pm 4.6	14.86 \pm 5.62	0.001	0.16
Hostility	10.05 \pm 3.69	9.18 \pm 3.1	0.06	0.07
Phobia	12.18 \pm 2.7	11.21 \pm 4.44	0.001	0.11
Paranoid thoughts	23.45 \pm 3.33	10.2 \pm 4.26	0.001	0.12
Psychosis	15.45 \pm 3.78	11.2 \pm 4.39	0.001	0.09
Total mental health score	186.7 \pm 39.08	163.34 \pm 35.19	0.000	0.22

Mothers with ASD children achieved a lower score in a happiness questionnaire rather with healthy children (43.58 ± 9.12 , 81.92 ± 9.06 , respectively). The difference between the two groups was significant ($t=20.99$, $p<0.001$).

DISCUSSION: This research evaluated mental health, quality of life, and happiness in mothers with ASD children and compared them with those of mothers with healthy children. The findings corroborate that there is a significant difference between the two groups regarding mental health components ($p<0.001$). Similar to the results of the present study, another research conducted in 2012 has reported a significant difference between mothers of ASD children and the control group ($p = 5.69$, $p = 0.02$). That study had been performed to compare the mental health of the control group and that of mothers with ASD children. The sample consisted of 32 mothers with autistic children and 29 others with non-autistic children²³.

In a study aimed at investigating psychological health between two groups of parents of ASD children and parents of other children with developmental problems, it was observed that parents of ASD children were characterized by more anxiety symptoms (including poor self-esteem, low satisfaction with their role as parents, and more experience of child behavioral problems), greater depression symptoms, and more frequent usage of avoidance coping strategies than the other group; additionally, they had a lower score in terms of mental health index¹⁷. Maybe the presence of a child with special needs in the family can change the psychological functions of the family and affect its mental health, dynamism, and purposefulness.

On the other hand, the essential psychological functions of the family, such as emotional expressing, conflict resolution, independence, progress, recreation and entertainment, and relationships with others are disturbed in such circumstances. There are diverse problems that ASD children grapple with, and their families (especially mothers) are directly and indirectly affected by such difficulties, like Family's physical and mental health. There is substantial evidence suggesting the increased rate of stress and mental difficulties among parents with ASD children^{26, 27}.

Our studies also revealed that there is a significant difference between the two groups regarding quality of life components. In line with the results of the current study, a significant difference was observed in the quality of life of three groups of mothers in a study aimed at assessing the quality of life of mothers with children who had visual, auditory, and autistic impairments. The quality of life of mothers with autistic children was lower than the two groups of mothers with deaf and blind children²⁸. Kousha *et al.*, explored anxiety, stress, and quality of life in mothers of ASD children and compared the results with those of mothers with healthy children.

It was concluded that in mothers with ASD children, anxiety and depression were higher and quality of life was lower than the mothers of healthy children²⁹. The findings of Khan and Humtосу³⁰ and Perumal *et al.*,³¹ are compatible with the results of the current study. To justify this suggestion, it may be posited that among various groups of children with special needs, children with autism spectrum disorders have particularly

enormous problems in their social relationships and behavioral issues³². Also, parents of this group of children have more stress and greater problems than parents of other children with special needs. Stress and negative emotions often give rise to anxiety, depression, and anger, which affect the quality of life³³. Finally, according to the results of the t-test, the observed t value was statistically significant by assuming the equality of variances at ($p < 0.001$, $t = 20.99$). In the same vein, in a research carried out by Hasting (2003), mothers of children with special needs were reported to have more stress than fathers³⁴.

Having an ASD child is the source of stress, which is manifested in anxiety, depression, and reduced happiness of the parents³⁵. Mothers of ASD children undergo an excessive caring burden and numerous psychological, economic, and social pressures that can aggravate parental stress and diminish the happiness and cognitive flexibility of the family, especially mothers. Nevertheless, these lesions might be greatly compensated and alleviated. The presence of a disabled child in the family can alter the psychological functions of the family; and finally, it influences the mental health, dynamism, and purposefulness of the family; eventually, it disturbs conflict-resolution, independence, progress, recreation, religious and moral values, social communication, union, meaningfulness of life, problem-solving, happiness, and mental health of the family³⁶.

Considering the findings of this study, it can be concluded that having an ASD child may unsettle the family's communicative system. In addition to problems such as heavy costs of treatment, rehabilitation, education, and maintenance, it may be that the disruption of relationships between family members, especially parents, is the most devastating and bitter effect of having an autistic child. Most parents report that their marital life is deeply affected by their child's disability and that they always experience feelings of turmoil, confusion, emotional coldness, and sexual frigidity. These complications impair quality of life and happiness; as a result, various psychological pathologies afflict those involved.

Some of the limitations of this study include the geographical confinement of the samples to Gilan

province, Iran; the confinement of samples to mothers of ASD children; and the impossibility of measuring follow-up due to lack of easy access to the participants.

It is recommended, first, that future studies perform a similar investigation on the mothers of children with autistic impairment in other cities. Second, it is suggested that a comparison is made between mothers and fathers in this regard. Third, to reduce the probability of bias in responding the questions and to enhance internal validity of the research, the authors propose that, besides questionnaire, various tools (e.g., interview and observation) be employed to assess the quality of life, mental health, and happiness.

CONCLUSION: Finally, it is suggested that training courses be provided for families with ASD children to boost their mental health, happiness, and quality of life, and help decrease their problems.

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