

A descriptive study on the depression, anxiety, and stress levels of mothers with autistic children

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ABSTRACT

Aims: Autism spectrum disorder is a condition that profoundly impacts a child's life and has significant effects on the mothers, particularly the primary caregivers.

Methods: This descriptive study aims to examine the levels of depression, anxiety, and stress among mothers of children registered at an autism center in Iraq. The research was conducted between September 2022 and May 2023 at the Thi Qar Autism Center in Iraq, with the participation of 218 mothers. Data for the study were collected using a Personal Information Form and the Depression Anxiety Stress Scale.

Results: The findings revealed that the majority of participants were 40 years old and above, had two children, possessed literacy skills, and struggled to meet their financial needs. Mothers were found to experience high levels of depression, very high levels of anxiety, and moderate levels of stress. Furthermore, a strong positive correlation was identified between depression and anxiety ($r=0.647$, $p<0.001$), while a weak positive correlation was observed between depression and stress ($r=0.219$, $p=0.001$).

Conclusion: Based on these results, it is recommended that healthcare professionals provide mothers with therapeutic, preventive, and mental health-enhancing support. The study underscores the importance of addressing the mental health challenges faced by mothers of children with autism.

Keywords: Anxiety, mother, depression, autism, stress

INTRODUCTION

The presence of Autism spectrum disorder (ASD) in children necessitates comprehensive care and a regular treatment strategy (Gowda et al., 2019). ASD signifies a group of neurodevelopmental disorders that begin in early childhood and persist throughout life. Behaviors such as inattention, social isolation, and the need to repeat the same actions are observed in children diagnosed with ASD (Picardi et al., 2018). These tendencies can lead to difficulties in forming peer and family relationships, as well as interpersonal and emotional interactions. Due to the focus on the child during the treatment process, the mental health issues experienced by mothers of children with ASD are sometimes overlooked. Increased levels of stress and psychiatric symptoms in mothers can negatively impact the care and treatment processes for children. In studies examining the burden of parenting in families with a child with ASD, it has been reported that mothers, compared to fathers, experience a higher subjective burden (Kaya & Yöndem, 2020; Firat, 2016). Research conducted in the Netherlands indicated that parents, especially mothers, raising a child with neurodevelopmental

disorders have higher levels of stress compared to the general population (Firat, 2016). Care challenges for children with autism have been associated with higher levels of stress among parents, influenced by unmet caregiver needs and perceived family burden (An, Chan & Kaukenova, 2020).

When stress and challenges in families with children affected by ASD are not well managed, psychiatric problems such as anxiety, depression, and burnout become common (Demšar & Bakracevic, 2023). In addition to psychiatric issues associated with ASD, problems such as helplessness, shame, and stigmatization related to the child's illness can lead to delays in seeking social support and medical assistance, causing disruptions in the continuity of services received. Therefore, compared to other developmental anomalies, ASD has been shown to lead to higher levels of mood and anxiety disorders among parents (Oruche et al., 2012). As parenting stress increases in mothers of children with autism, a decrease in parenting competence is reported, affecting both the care of the sick child and the struggle to fulfill other parenting

roles. Moreover, mothers expressing more guilt about their child's illness have been found to have lower levels of self-efficacy (Bramhe, 2019). Considering that parenting self-efficacy may mediate the relationship between the behavioral problems of an autistic child and the mother's anxiety/depression, addressing the dynamics influencing maternal self-efficacy becomes crucial in a situation directly affecting the child (Servi & Baştuğ, 2018).

During the treatment process for autistic children, mothers, by cultural roles, tend to take on more responsibility, and the mental state of mothers has been found to affect the adaptation to clinic-based early intervention programs (Firat, 2016). Furthermore, evidence suggests that maternal depression is associated with cases of ill-treatment and neglect/abuse in children (Beck et al., 2004). In this context, both the overall health of the mother and the child can be improved through early diagnosis and effective treatment of maternal depression (Uğuz et al., 2004). Given that ASD in children is a chronic condition requiring prolonged care and a comprehensive treatment process, the levels of stress, anxiety, and depression in mothers can directly impact the care and treatment of their children (Beck et al., 2004; Uğuz et al., 2004). The fact that autism affects caregivers as much as the sick child, especially the negative impact on mothers in this process, necessitates the evaluation of mothers caring for children with autism and the conduct of research on this issue. The literature review reveals the scarcity of studies focusing on parents of autistic children in Iraq. This descriptive study aims to assess the stress, anxiety, and depression levels of mothers of children with ASD and the variables influencing them.

METHODS

Ethical Aspects of the Study

Ethical approval was obtained from the Kırşehir Ahi Evran University Clinical Researches Ethics Committee for the conduct of the study (Date: 27.09.2022, Decision No: 2022-17/155) (Annex 3). All procedures were carried out in accordance with the ethical rules and the principles of the Declaration of Helsinki. Before conducting the research, written permission was obtained from the Iraq Ministry of Health /Nasriyah Health Department. Prior to completing the survey forms, individuals constituting the research sample were provided with comprehensive information about the research, given time to decide, and left alone. After freely deciding to participate, verbal and written consent was obtained from those willing to participate, and data collection tools were provided.

Aim of the Study

The aim of this study is to examine the levels of depression, anxiety, and stress among mothers of children with autism registered at an autism center in Iraq. To achieve this goal, the following questions were addressed:

1. What are the levels of stress, anxiety, and depression in mothers within the scope of the study?
2. What is the relationship between the levels of stress, anxiety, and depression in mothers within the scope of the study?

Study Type

The research is a descriptive study conducted to assess the levels of depression, anxiety, and stress in mothers of children with autism.

Population and Sample of the Study

The population of the study consists of mothers of children registered at the Dhi Qar Autism Center in Iraq. The universe of the study is formed by the mothers of 500 autistic children whose records are available in the institution. The sample size for the study was determined using the known population sampling method, considering a 95% confidence interval and a 5% margin of error, with a minimum of 218 mothers accepted as the sample size. Participants were selected based on inclusion and exclusion criteria evaluated by the researchers. Inclusion criteria included being above 18 years old, not having a psychiatric illness, willingness to participate in the study, literacy in Arabic, and registration at the Dhi-Qar Autism Center.

Implementation of the Study

The study was conducted with mothers of children diagnosed with Autism Spectrum Disorder (ASD) registered at the Dhi Qar Autism Spectrum Disorder Rehabilitation Center in Iraq. Ethical approval and institutional permission were obtained before the implementation of the study. The primary researcher is employed at the institution where the research was conducted. The data collection process took place face-to-face from September 2022 to May 2023, with the survey application lasting approximately 5-10 minutes. Before the implementation of the study, comprehensive information about the research was provided to mothers of children seeking services at the institution, allowing them time to decide. After ensuring free decision-making, those willing to participate in the research provided verbal and written consent, and data collection tools were provided.

Data Collection Tools

The research data were collected using a Descriptive Information Form prepared by the researchers and the Depression Anxiety Stress Scale-21.

Descriptive Information Form: This form, prepared by the researchers (Roy et al., 2023; Christi et al., 2023; Alibekova et al., 2022; Sajib et al., 2022), includes a total of 18 questions containing information about the mother and the child. It includes information such as the mother's age, marital status, education level, place of residence, the family's average monthly income, and occupation, as well as questions about the child's age and year of diagnosis.

Depression, Anxiety, and Stress Scale (DASS-21): The Depression Anxiety Stress Scale (DASS), developed by Lovibond and Lovibond (1995), consists of 42 items. The scale utilizes a 4-point Likert-type rating, with responses ranging from 0 "not applicable to me at all," 1 "somewhat applicable to me," 2 "applicable to me most of the time," to 3 "completely applicable to me." The 21-item version of the DASS used in this study was developed by Henry and Crawford (2005) and validated for Arabic-speaking adults by Ali et al. (2017). In this short scale (DASS-21) employed in

the study, there are 7 questions each for measuring depression, anxiety, and stress dimensions. For each subscale, a score is obtained by adding up the answers given to the subscale. Scores obtained from the subscales are evaluated as normal, mild, moderate, severe and very severe. The Cronbach's alpha coefficients for the short scale were calculated as 0.81 for depression, 0.76 for anxiety, and 0.77 for stress.

Data Analysis

The defining statistics of the variables in the survey are presented as frequency, percentage, average and standard deviation. Parametric method assumptions were evaluated in order to determine the appropriate statistical analysis for the scales obtained from the scale used in the study. A Kolmogorov Smirnow test was carried out to evaluate normal distribution, and the scale scores were determined not to be compatible. For this reason, non-parametric methods have been used in statistical analysis. Spearman's correlation analysis, a method of non-parametric correlations analysis, was performed to establish the relationship between scale sub-dimensions. In statistical analyses, the significance level (α) is assumed to be 0.05.

RESULTS

When the sociodemographic characteristics of the mothers involved in the study were examined, the majority of mothers were women aged 40 and over. When looked at by marital status and profession, most mothers (73.9%) were married and housewives (60.1%). 26.1% of mothers had 2 children, 23.9% had 3 children and 20.6% had 4 children. The majority of the participants were mothers who were literate, lived in the city, did not have enough income to cover their expenses, were responsible for the care of 1-3 people at home, did not receive help in caring for their autistic child, and did not have a chronic disease (Table 1).

A study was conducted on Table 2 to examine the characteristics of children diagnosed with OSB. It was observed that 52.3% of the children diagnosed with ASD were girls and 42.2% were between the ages of 5-8. When the child's length of stay in an autism care center was examined, it was found that 71.6% of them stayed between 1-30 days, and the majority (90.4%) did not have any other diseases. It was observed that more than half of the children were diagnosed with autism between the ages of 3-4, and 34.9% had mild mental retardation.

The average depression score of the mothers participating in the study was determined to be 12.25±2.50, the anxiety score was 12.31±2.51, and the stress score was 12.22±2.70 (Table 3).

When Table 4 was examined, 74.31% of mothers found that they had severe and very severe depression, 87.61% had very severe anxiety, while 45.87% had severe and very high levels of stress.

When the relationship level of depression, anxiety, and stress scores among mothers participating in the study was examined; a strong positive correlation was found between depression and anxiety ($r=0.647$, $p<0.001$), indicating a robust association. Additionally, there was a weak positive correlation between depression and stress ($r=0.219$, $p=0.001$). However, the relationship between anxiety and stress was not found to be statistically significant ($p=0.061$) (Table 5).

Table 1. The sociodemographic characteristics of the mothers			
		Frequency	Percentage
Age	≤24	11	5.1
	25-29	29	13.3
	30-34	56	25.7
	35-39	48	22.0
	≥40	74	33.9
Marital status	Married	161	73.9
	Single	57	26.1
Number of children owned	1	32	14.7
	2	57	26.1
	3	52	23.9
	4	45	20.6
	5	21	9.6
	6	11	5.1
Education level	Not able to read or write	6	2.8
	Read-to-write	84	38.5
	Primary school	56	25.7
	Secondary school	43	19.7
	High school and above	29	13.3
Place of residence	City	148	67.9
	Village	70	32.1
Status of revenue expenditure	Yes	92	42.2
	No	126	57.8
Profession	Looking for a job	16	7.3
	Housewife	131	60.1
	Employee	26	11.9
	Government employee	39	17.9
	Self-employed	6	2.8
The number of people who are responsible for care at home	1-3	107	49.1
	4-6	66	30.3
	7 +	45	20.6
Status of participation of family members in the care of the child	Yes	95	43.6
	No	123	56.4
Presence of chronic disease	Yes	74	33.9
	No	144	66.1

Table 2. Characteristics of the children

		Frequency	Percentage
Child gender	Male	104	47.7
	Female	114	52.3
Child age	0-4	88	40.4
	5-8	92	42.2
	9+	38	17.4
Duration of a child's stay at an autism care center	1-30 day-days	156	71.6
	31-90 days	19	8.7
	91+ days	43	19.7
Presence of another disease in the child	Yes	21	9.6
	No	197	90.4
Age at which the child was diagnosed	1-2 age	8	3.7
	3-4 age	128	58.7
	5-6 age	78	35.8
	7 + age	4	1.8
Intelligence level of the child	≤69 "Middle intelligence volatility"	76	34.9
	70-79 "Border intelligence"	59	27.1
	80-89 "Lower intelligence"	62	28.4
	90-109 "Normal (average) intelligence"	21	9.6

Table 3. Descriptive statistics of the subscales of the scale

	n	Minimum	Maximum	Median	Mean	Standard deviation
Depression score	218	7	18	12	12.25	2.50
Anxiety score	218	8	18	12	12.31	2.51
Stress score	218	6	20	12	12.22	2.70

Table 4. Descriptive statistics for levels of depression, anxiety and stress

		Frequency	Percentage
Depression level	Moderate	56	25.69
	Severe	85	38.99
	Very severe	77	35.32
Anxiety level	Severe	27	12.39
	Very severe	191	87.61
Stress level	Normal	7	3.21
	Mild	20	9.17
	Moderate	91	41.74
	Severe	83	38.07
	Very severe	17	7.80

Table 5. Correlations between sub-dimensions of the scales

		Anxiety Score	Stress Score
Depression score	Spearman's rho	0.647*	0.219*
	p-value	<0.000	0.001
Anxiety score	Spearman's rho		0.217
	p-value		0.061

DISCUSSION

The aim of this study is to investigate the levels of depression, anxiety, and stress in mothers of children registered in an autism center in Iraq. A study conducted by Roy et al. (2023) in Bangladesh with parents of 391 children with ASD found that 65.7% of parents had moderate depression. Similarly, in a study by Christi et al. (2023) focusing on parents of children with autism, they found that 52.9% of mothers had a history of depression in the five years following the diagnosis. Alibekova et al. (2022) reported a prevalence of mild to very severe depression in parents of 53.7% in a study conducted in Kazakhstan. In a cross-sectional study by Sajib et al. (2022) involving parents of 227 children with autism, 11% of parents had moderate, 8.4% had severe, and 6.2% had very severe depression. Al-Farsi et al. (2016) examined the levels of stress, anxiety, and depression in parents of children with and without ASD in Oman. They found that 43% of participating parents had depressive symptoms. Another study by Alshahrani & Algashmari (2021) found a prevalence of 30% for mild depression and 68% for moderate to severe depression in parents of children with ASD. In comparison, a study found that mothers of children with ASD had higher levels of parental stress and depressive symptoms compared to mothers of typically developing children, and mothers of autistic children reported higher levels of stress than fathers (Barańczuk & Pisula, 2022). Gong et al. (2015) found that mothers of children with autism had higher levels of depression and anxiety compared to mothers of typically developing children, and autistic children's mothers were more vulnerable to depression than fathers. Kousha et al. (2016) conducted a descriptive-cross-sectional study on the demographic and mental health characteristics of 127 mothers of children with ASD. They found that 49.6% of mothers of children with ASD had a high level of depression. Studies by Falk et al. (2014), Almansour et al. (2013), and Hayes and Watson (2013) also confirmed a high level of depression among mothers of children with autism. However, some studies have not found a significant relationship between the prevalence of depression and parents of children with autism. This variation is believed to be related to factors that either facilitate or reduce the emergence of depression. It is noteworthy that this study was conducted in an autism center, and the high prevalence of depression among mothers is surprising considering that children with autism receive professional support from the government. This may indicate a lack of sufficient support for mothers, with a focus solely on children even in an autism center. Additionally, the weak social support system for women in Iraq, the lack of government assistance for mothers, and the stigma and blame mothers face could explain this situation. Furthermore, the burden of care, increasing responsibilities, the health status of their children, the level of dependence, and financial difficulties experienced by mothers can contribute to the onset of depression (Barańczuk & Pisula, 2022).

In the study, it was observed that the average anxiety score

of mothers was 12.31 ± 2.51 , and the majority of participants had a very high level of anxiety. When reviewing the literature, Sajib et al. (2022) found that 28.6% of parents of autistic children had anxiety disorders, Alibekova and colleagues (2022) reported a prevalence of anxiety ranging from mild to very high, and Barańczuk & Pisula (2020) indicated high levels of anxiety in mothers of children with Autism Spectrum Disorder (ASD). Gong et al. (2015) examined parents of autistic children and typically developing children, discovering that mothers of autistic children had higher anxiety compared to the control group. Kousha et al. (2016) also found that mothers of children with ASD had high levels of anxiety. In a study conducted by Almansour et al. (2013), mothers of autistic children were found to have significantly higher anxiety scores compared to healthy controls. The finding of high anxiety in the study could be attributed to the unequal status and power of Iraqi mothers socially compared to men, women experiencing more poverty, inadequate access to social resources and healthcare services, and uncertainties about the future. The complete responsibility of childcare being placed on mothers restricts their participation in social and recreational activities. Stigmatization of autistic children may lead to social isolation for both the mother and the entire family, contributing to increased anxiety. The caregiving responsibility of mothers may lead them to experience anxiety more intensely, especially in connection with behavioral problems in children.

Another variable examined in the study is the stress levels of mothers of autistic children. The average stress score of participant mothers was found to be 12.22 ± 2.70 , with 45.87% of mothers having high or very high levels of stress. When the literature is reviewed, Alibekova and colleagues (2022) conducted a cross-sectional study to examine the stress, anxiety, and depression of 146 parents caring for autistic children registered at the Astana National Children's Rehabilitation Center. They reported a prevalence of mild to severe stress of 52.9%. Barańczuk & Pisula (2020) reports that mothers of children diagnosed with OSB have very high levels of parental stress. A study by Christi and colleagues (2022) found that 76% of women had a stress score of 14 to 26, indicating moderate levels of stress. Padden and James (2017) that parents of children diagnosed with OSB had higher levels of stress and worse physical health than those of children with normal development. A 2002 study by Newschaffer and colleagues found that parents of children with autism suffer more stress than parents of normal-developed children. Children diagnosed with autism tend to have more serious difficulties in social interaction, communication, repetitive and restrictive behavior, which is suggested to lead to increased parental stress. The violence of these behaviors can increase parental burden and stress by increasing dependence and pressure on the parent. One of the causes of stress is the burden of caring (Barańczuk & Pisula, 2022). The effects of care on mental health have been linked to a burden resulting from the greater priority given to the needs of the recipient (Bulley, Henry & Suddendorf, 2017). This burden can be divided into two categories: the objective burden, which includes the tangible adverse effects on the life of the caregiver due to care, and the subjective burdens that relate to

personal assessments of the care provider's role and its consequences. (Myers, 2003). Objective burden levels can also be said to increase stress levels when the mothers who participated in the study were also considered not to receive childcare assistance.

The relationship between mothers' levels of depression, anxiety, and stress was examined in the context of the study. The correlation analysis revealed a strong positive relationship between depression and anxiety ($r=0.647$, $p<0.001$), a weak positive relationship between depression and stress ($r=0.219$, $p=0.001$), but no statistically significant relationship between anxiety and stress ($p=0.061$). The findings of the study are consistent with the literature. In a study by Rezendes & Scarpa (2011) involving mothers of 3-16-year-old children diagnosed with ASD, it was reported that parenting stress was positively correlated with depression and anxiety. Falk et al.'s (2014) study examined 250 mothers and 229 fathers of children with ASD, reporting a positive correlation between depression and stress and anxiety. Padden & James (2017) conducted research comparing reported levels of stress, anxiety, and depression among parents of children with and without ASD ($n=38$ in each group) and found a strong positive correlation between depression and stress. Another study suggested that a history of anxiety or depression in parents is associated with an increase in perceived stress (Christi et al., 2023). Another study indicates that the caregiving process for autistic children may contribute to increased levels of stress, anxiety, and depression, while mothers of typically developing children did not show a significant relationship between stress and depression levels (Barańczuk, & Pisula, 2022). Stress has the potential to trigger symptoms of anxiety and depression. Although the study did not find a relationship between stress and anxiety, it is a known fact that stress has the potential to trigger symptoms of anxiety and depression (Christi et al., 2023; Rezendes & Scarpa, 2011). Daily stressors can make individuals overly aroused and evoke negative emotions. These negative emotions can affect perceptions, disrupt attention, and impair problem-solving skills. Additionally, negative emotions associated with perceived threats can lead to rumination, undermining analytical thinking and problem-solving skills. Understanding this cognitive-emotional downward spiral is key to understanding how depression, anxiety, and stress interact in this context (Bulley, Henry & Suddendorf, 2017).

Limitations

This research has some limitations. One of the limitations of this study is that data was collected based on self-report. Studies evaluating psychiatric symptoms are recommended by psychiatrists. Another limitation is that only mothers of children registered to an autism center were included in the study. It is recommended to conduct studies that include mothers of children with autism who are not registered to a center.

CONCLUSION

According to the results obtained from current research on the stress, anxiety, and depression levels of mothers with autistic children, the majority of mothers experience high levels of depression and anxiety, along with moderate to high levels of stress. There is a strong positive relationship

between depression and anxiety, while a weak positive relationship exists between depression and stress. In light of these findings, it is recommended that the healthcare team supports mothers with autistic children through mental health-preserving, therapeutic, and developmental services. Further research is suggested to investigate the effectiveness of coping strategies for stress, anxiety, and depression among mothers with autistic children.

ETHICAL DECLARATIONS

Ethics Committee Approval

The study was carried out with the permission of Kırşehir Ahi Evran University Clinical Researches Ethics Committee for the conduct of the study (Date: 27.09.2022, Decision No: 2022-17/155).

Informed Consent

All patients signed and free and informed consent form.

Referee Evaluation Process

Externally peer-reviewed.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

Financial Disclosure

The authors declared that this study has received no financial support.

Author Contributions

All of the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

REFERENCES

- Al-Farsi, O. A., Al-Farsi, Y. M., Al-Sharbati, M. M., & Al-Adawi, S. (2016). Stress, anxiety, and depression among parents of children with autism spectrum disorder in Oman: a case-control study. *Neuropsychiatr Dis Treatm*, 12, 1943-1951.
- Ali, A. M., Ahmed, A., Sharaf, A., Kawakami, N., Abdeldayem, S. M., & Green, J. (2017). The Arabic version of the depression anxiety stress scale-21: cumulative scaling and discriminant-validation testing. *Asian J Psychiatry*, 30, 56-58.
- Alibekova, R., Chan, C. K., Crape, B., Kadyrzhanuly, K., Gusmanov, A., An, S., ... & Rakhimova, M. (2022). Stress, anxiety and depression in parents of children with autism spectrum disorders in Kazakhstan: prevalence and associated factors. *Glob Ment Health*, 9, 472-482.
- Alshahrani, M. S., & Algashmari, H. (2021). The moderating effect of financial stress and autism severity on development of depression among parents and caregivers of Autistic children in Taif, Saudi Arabia. *J Fam Med Prim Care*, 10(3), 1227-1233.
- Almansour, M. A., Alateeq, M. A., Alzahrani, M. K., Algeffari, M. A., & Alhomaidan, H. T. (2013). Depression and anxiety among parents and caregivers of autistic spectral disorder children. *Neurosci J*, 18(1), 58-63.
- An, S., Chan, C. K., & Kaukenova, B. (2020). Families in transition: parental perspectives of support and services for children with autism in Kazakhstan. *Int J Disab, Developm Educ*, 67(1), 28-44.
- Barańczuk, U., & Pisula, E. (2022). Parental stress and symptoms of depression: a preliminary report. *Int J Developm Disab*, 68(4), 445-453.
- Beck, A., Daley, D., Hastings, R. P., & Stevenson, J. (2004). Mothers' expressed emotion towards children with and without intellectual disabilities. *J Intellect Disab Res*, 48(7), 628-638.
- Bramhe, V. (2019). Depression and anxiety in mothers of children with autism spectrum disorders and intellectual disabilities. *Indian J Ment Health*, 6(3), 272.
- Brobst, J. B., Clopton, J. R., & Hendrick, S. S. (2009). Parenting children with autism spectrum disorders: the couple's relationship. *Focus Autism Other Developm Disab*, 24(1), 38-49.
- Bulley, A., Henry, J. D., & Suddendorf, T. (2017). Thinking about threats:

memory and prospection in human threat management. *Consciousness Cognition*, 49, 53-69.

Christi, R. A., Roy, D., Heung, R., & Flake, E. (2023). Impact of respite care services availability on stress, anxiety and depression in military parents who have a child on the autism spectrum. *J Autism Developm Disord*, 53(11), 4336-4350.

Demšar, A., Bakracevic, K. (2023). Depression, anxiety, stress, and coping mechanisms among parents of children with autism spectrum disorder. *Int J Disab, Developm Educ*, 70(6), 994-1007.

Falk, N. H., Norris, K., & Quinn, M. G. (2014). The factors predicting stress, anxiety and depression in the parents of children with autism. *J Autism Developm Disord*, 44(12), 3185-3203.

Fırat, S. (2016). Otistik çocukların anne-babalarının depresyon ve kaygı düzeyleri. *Cukurova Med J*, 41(3), 539-547.

Gong, Y., Du, Y., Li, H., Zhang, X., An, Y., & Wu, B. L. (2015). Parenting stress and affective symptoms in parents of autistic children. *Sci China Life Sci*, 58(10), 1036-1043.

Gowda, G. S., Komal, S., Sanjay, T. N., Mishra, S., Kumar, C. N., & Math, S. B. (2019). Sociodemographic, legal, and clinical profiles of female forensic inpatients in Karnataka: a retrospective study. *Indian J Psychologic Med*, 41(2), 138-143.

Hayes, S. A., Watson, S. L. (2013). The impact of parenting stress: a meta-analysis of studies comparing the experience of parenting stress in parents of children with and without autism spectrum disorder. *J Autism Developm Disord*, 43(3), 629-642.

Kaya, M. O., Yöndem, Z.D. (2020). Otizmli çocuğu olan annelerde psikoeğitim grup programının algılanan stres düzeyine etkisi. *Uşak Üni Eğit Araşt Derg*, 6(1), 20-33.

Kousha, M., Attar, H. A., Shoar, Z. (2016). Anxiety, depression, and quality of life in Iranian mothers of children with autism spectrum disorder. *J Child Health Care*, 20(3), 405-414.

Myers, J. E. (2003). Coping with caregiving stress: a wellness-oriented, strengths-based approach for family counselors. *Fam J*, 11(2), 153-161.

Newschaffer, C. J., Fallin, D., Lee, N. L. (2002). Heritable and nonheritable risk factors for autism spectrum disorders. *Epidemiol Rev*, 24(2), 137-153.

Oruche, U. M., Gerkenmeyer, J., Stephan, L., Wheeler, C. A., & Hanna, K. M. (2012). The described experience of primary caregivers of children with mental health needs. *Arch Psychiatr Nurs*, 26(5), 382-391.

Padden, C., James, J. E. (2017). Stress among parents of children with and without autism spectrum disorder: a comparison involving physiological indicators and parent self-reports. *J Developm Physical Disab*, 29(4), 567-586.

Pastor-Cerezuela, G., Fernández-Andrés, M. I., Tárraga-Mínguez, R., & Navarro-Peña, J. M. (2016). Parental stress and ASD: relationship with autism symptom severity, IQ, and resilience. *Focus Autism Other Developm Disab*, 31(4), 300-311.

Paul, R. (2008). Interventions to improve communication in autism. *Child Adolesc Psychiatr Clin North Am*, 17(4), 835-856.

Picardi, A., Gigantesco, A., Tarolla, E., Stoppioni, V., Cerbo, R., Cremonte, M., ... & Nardocci, F. (2018). Parental burden and its correlates in families of children with autism spectrum disorder: a multicentre study with two comparison groups. *Clin Pract Epidemiol Ment Health: CP & EMH*, 14, 143-176.

Rezendes, D. L., Scarpa, A. (2011). Associations between parental anxiety/depression and child behavior problems related to autism spectrum disorders: the roles of parenting stress and parenting self-efficacy. *Autism Res Treatm*, 2011, 395190.

Roy, N., Amin, M. B., Mamun, M. A., Sarker, B., Hossain, E., & Aktarujjaman, M. (2023). Prevalence and factors associated with depression, anxiety, and stress among people with disabilities during COVID-19 pandemic in Bangladesh: a cross-sectional study. *PLoS One*, 18(7), e0288322.

Sajib, W. H., Nahar, J. S., Algin, S., Faruque, S., Arafat, M. Y., & Sonaulah, M. (2022). Depressive and anxiety disorders among the parents of autism in Bangladesh: a cross-sectional study. *Mymensingh Med J: MMJ*, 31(4), 1068-1072.

Servi, C., Baştuğ, Y. E. (2018). Otizm spektrum bozukluğunda erken dönem belirtileri: Annelerin görüşlerinin incelenmesi. MA Melekoğlu, (Ed.), 28, 166-179.

Uğuz, Ş., Toros, F., İnanç, B. Y., Çolakkadıoğlu, O. (2004). Zihinsel ve/veya bedensel engelli çocukların annelerinin anksiyete, depresyon ve stres düzeylerinin belirlenmesi. *Klin Psikiyatri*, 7(1), 42-47.