

# Anxiety, Depression, and Coping Strategies among Parents of Children with Autism in Abu Dhabi

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## ABSTRACT

**Background:** Autism spectrum disorder (ASD) encompasses a variety of lifelong neurodevelopmental disorders that begin in childhood, marked by challenges in social communication and interaction. Raising a child with ASD often leads to heightened psychological distress, including anxiety and depression, for parents.

**Objective:** This study aimed to assess the levels of anxiety, depression, and coping strategies among parents of children with ASD at the Zayed Higher Organization for People of Determination in Abu Dhabi.

**Methods:** A cross-sectional study was carried out among 200 parents who participated, and data were collected using a socio-demographic survey, the Hospital Anxiety and Depression Scale, and the Ways of Coping Questionnaire.

**Results:** There were 180 females and 92 males involved in this study. The respondent's mean age was 42 years old (SD=11.8). The results show that the majority of the respondents had moderate anxiety levels  $n=72$  (36%) and high depression levels (48.5%), and most of the respondents were medium resilient copers (81.3%). There was no significant difference in coping strategies based on anxiety level ( $p=0.470$ ) and depression level ( $p=0.297$ ). Frequency of education ( $p=0.011$ ), employment ( $p=0.028$ ), marital status ( $p=0.022$ ), number of children ( $p=0.001$ ), gender ( $p=0.028$ ), and the age of the child ( $p=0.010$ ) was significantly varied with anxiety level. Depression levels significantly varied based on marital status ( $p=0.035$ ) and the child's education ( $p=0.002$ ). Additionally, coping mechanisms were associated with the parents' age ( $p=0.019$ ), children's age ( $p<0.001$ ), marital status ( $p=0.009$ ), income ( $p<0.001$ ), and education ( $p=0.002$ ).

**Conclusion:** These findings underscore the importance of understanding the psychological and emotional challenges faced by parents of children with ASD to support their needs.

**Keywords:** Autism, anxiety, depression, coping strategies, parents, children with autism, Zayed Higher Organization.

## INTRODUCTION

Autism spectrum disorder (ASD) is a neurodevelopmental condition characterized by challenges in social interaction, communication difficulties, and repetitive behaviors. Unlike physical impairments, children with ASD often exhibit behaviors that impact their ability to engage in social settings and manage daily activities. The World Health Organization (WHO) classifies ASD as a developmental disorder that affects brain function, leading to impaired verbal and nonverbal communication, restricted interests, and repetitive behaviors [1]. Additionally, individuals with ASD frequently experience heightened sensitivity to sensory stimuli, which can result in increased anxiety, emotional distress, and behavioral challenges.

Globally, ASD is becoming more recognized, with the WHO (2022) estimating that approximately 1 in 100 children are diagnosed with the condition [2]. In the United Arab Emirates (UAE), the prevalence of ASD was reported at 1 in 146 births in 2020, indicating a significant number of families affected by this condition [3]. Caring

for a child with ASD presents ongoing challenges for parents, often leading to increased physical, emotional, and financial strain [4]. These demands place parents at heightened risk for mental health issues, such as anxiety and depression, as they cope with the long-term demands of raising a child with autism.

Several studies have explored the mental health outcomes of parents caring for children with ASD, revealing increased risks of anxiety and depression due to the challenges of managing behavioral issues, accessing appropriate educational and healthcare resources, and coping with societal stigma [5]. Common coping strategies among parents include seeking social support, engaging in problem-solving approaches, and using religious or emotion-focused coping mechanisms [6]. However, the effectiveness of these strategies can vary based on cultural and environmental factors.

In the Arab cultural context, traditional family structures, religious beliefs, and societal expectations are crucial in shaping parental coping mechanisms. In the UAE, family honor, social expectations, and collective decision-making may impact how parents perceive and manage ASD-related challenges [7]. Studies indicate that stigma surrounding mental health and disability can discourage parents from seeking professional psychological

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Received: October 20, 2024; Revised: April 15, 2025; Accepted: May 21, 2025

DOI: <https://doi.org/10.37184/lnjpc.2707-3521.7.66>

support, leading to greater reliance on informal family networks and religious coping [8]. However, limited research exists on how UAE-based parents of children with ASD specifically navigate these challenges.

Despite growing global research on parental mental health and ASD, there is a lack of studies examining anxiety, depression, and coping mechanisms among parents in the UAE. This study aims to address this gap by investigating the psychological distress and coping strategies of parents of children with ASD at the Zayed Higher Organization for People of Determination in Abu Dhabi. The study will 1) Assess the levels of anxiety and depression among parents of children with ASD. 2) Identify common coping mechanisms used by parents in the UAE and 3) Examine the influence of cultural factors on parental mental health and coping strategies.

By understanding the psychological distress and coping mechanisms of these parents, this research aims to provide insights that can inform the development of culturally tailored support services and mental health interventions in the UAE.

## METHODS

This cross-sectional study was conducted at the Zayed Higher Organization for People of Determination in Abu Dhabi, UAE, from October 2022 until March 2024.

For ethical considerations, it obtained approval to conduct this study from the Human Research Ethics Committee (HREC), University Sciences of Malaysia (USM) and permission from Seha ZHO, Abu Dhabi, UAE. In this study, consent was obtained from the parents of the autistic children who were selected to participate. Participation was voluntary, and they could withdraw at any time. Informed consent was obtained after the respondent had received adequate information about the study. This includes the nature of the study, its role, and the importance of their participation. No invasive procedure was performed on the participant as this is only a survey questionnaire study.

A convenience sampling method was employed to select the respondents. A list of eligible respondents was identified through the organization's registration records. Then, the identification and selection process of eligible respondents fulfilled the inclusion criteria. This is done through the registration record of the selected organization. Afterward, the researcher invited and recruited the eligible respondents to answer the questionnaire. Then, the parents of children with Autism were called by phone and explained the study and the objectives.

The parents who willingly agreed to join received a link to complete an online questionnaire. This questionnaire was self-structured using Google Forms.

Inclusion criteria included parents who had children formally diagnosed with ASD and who were registered

at one of the three main centers within the Zayed Higher Organization for People of Determination. The exclusion criteria included parents who have children with Epilepsy or Attention Deficit Hyperactivity Disorders or had a history of mental illness. The collection commenced from April 2023 to May 2023.

The sample size calculator was used to calculate the sample size based on a population size of 348 parents of students in Zayed Higher Organization for People of Determination, using a 95% confidence level, a 5% margin of error, a response distribution of 50%, and a study power of 80% [9]. The total estimated sample size was 200 parents after considering a 10% dropout.

A standardized questionnaire consisting of three parts was used for data collection. The first part asked about the socio-demographic characteristics of the parents, including age, gender, education, employment status, marital status, income, number of children, and other child characteristics, such as age and gender.

The second part is the Hospital Anxiety and Depression Scale (HADS). The HADS is a 14-item questionnaire designed to measure the presence of anxiety and depression in non-psychiatric patients. It consists of two subscales: one for anxiety and the other for depression. Each item is rated on a four-point scale from 0 (not present) to 3 (severe), with a total score ranging from 0 to 21 for each subscale for each subscale ranging from 0 to 21. Scores between 0 and 7 indicate mild anxiety or depression, 8 to 10 indicate moderate levels, and scores of 11 or higher suggest a significant presence of anxiety or depression [10].

The last part is a questionnaire related to Ways of Coping Questionnaire (WOC). Developed by Folkman and Lazarus (1980), this questionnaire assesses individuals' coping strategies in stressful situations. The WOC comprises 66 items rated on a four-point Likert-type scale, ranging from 1 (not used) to 4 (used a great deal) [11]. Coping levels were categorized as low resilience: score < 132, medium resilience: 132-<198, and High resilience: score ≥ 198.

The tool's reliability, clarity, simplicity, and applicability were assessed, yielding a high-reliability score of 0.933 based on Cronbach's alpha test. Data were analyzed using the Statistical Package for Social Sciences (SPSS) version 27, with a chi-square conducted to examine differences between groups. A P-value less than or equal to 0.05 was considered statistically significant.

## RESULTS

The study results showed that 108(54%) respondents were female and 92(46%) male, with a mean age of 42 (SD=11.82) years. Slightly less than one-half (47%) of them were university graduates compared to only 17(8.5%) who were illiterate. About 125(62.5%) perceived their families' income <20,000. More than 92(46%) were employed, and 65(32.5%) were

unemployed. Considerable 157(78.5%) were married. 115(57.5%) of them had more than two children. About 141 (70.5%) of their children were male. The mean age of their children was 9 years old, and 83(41.5%) were ranked middle among their siblings. Regarding children's education (30%, 27%, and 25%) of them were (regular, special, or home-based education), respectively, while only 36 (18%) were a mixture of classes (**Table 1**).

**Table 1:** Socio-demographic characteristics of respondents (N=200).

Variables	Category	Number	Percent
Gender	Male	92	46.0
	Female	108	54.0
Age group/year	<20	6	3.0
	20-40	86	43.0
	>40	108	54.0
	Mean=42±11.82		
Education level	Illiterate	17	8.5
	Primary	33	16.5
	Secondary	56	28.0
	University	94	47.0
Income	<AED20,000	125	62.5
	AED20,000-50,000	54	27.0
	>AED50,000	21	10.5
	Median =15000.0		
Employment	Employed	92	46.0
	Unemployed		32.5
	Self-employed	29	14.5
	Student	14	7.0
Marital status	Married	157	78.5
	Divorced	21	10.5
	Widowed	22	11.0
Number of children	≤2	85	42.5
	>2	115	57.5
Child gender	Male	141	70.5
	Female	59	29.5
Child age/year	3-<8	74	37.0
	8-<13	67	33.5
	13-17	59	29.5
	Mean=9.92±3.84		
Child order	Elder	62	31.0
	Middle	83	41.5
	Younger	55	27.5
Child education	Home-based	50	25.0
	Mixture of classes	36	18.0
	Regular	60	30.0
	Special	54	27.0

### Anxiety Levels

The mean score of anxiety among respondents was  $8.53 \pm 3.96$ . Regarding anxiety level among respondents in this study; one-third (36.0%) of the respondents had a moderate anxiety level, and 33.0% had a mild anxiety level. High anxiety level was observed among only 31.0% of respondents (**Table 2**).

**Table 2:** Distribution of anxiety levels among parents (N=200).

Anxiety	Mean	Standard Deviation
Mean score	8.53	3.96
Category	n	%
Mild	66	33.0
Moderate	72	36.0
High	62	31.0

### Depression Levels

For depression, the mean score was  $10.17 \pm 3.96$ . Slightly less than half (48.5%) of the study respondents had a high depression level, compared to 29.5% who had a moderate depression level (**Table 3**).

**Table 3:** Distribution of depression levels among parents (N=200).

Depression	Mean	Standard Deviation
Mean score	10.17	3.58
Category	n	%
Mild	44	22.0
Moderate	59	29.5
High	97	48.5

### Coping Levels

Most (81.3%) of the study respondents were medium resilient copers compared to only 8.0% who were low resilient (**Table 4**).

**Table 4:** Distribution of coping levels among parents (N=200).

Coping Strategies	Mean	Standard Deviation
Mean score	166.04	27.32
Category	n	%
Low resilient copers	16	8.0
Medium resilient copers	162	81.0
High resilient copers	22	11.0

### Comparison between Study Respondents' Way of Coping and their Anxiety Level

The comparison between study respondents' way of coping and their anxiety level is portrayed in **Table 5**. Less than one-half (45.5%) of those who were high resilient copers expressed mild anxiety levels, while 50% of those who were low resilient copers expressed high anxiety levels. Slightly more than one-third (37.7%) of those who expressed moderate anxiety levels were medium resilient copers. There was no significant difference in coping strategies based on anxiety level ( $p = 0.470$ ).

**Table 5:** Comparison of ways of coping and anxiety levels among parents (N=200).

Anxiety Levels	Coping Strategies						p-value
	Low Resilient		Medium Resilient		High Resilient		
	n	%	n	%	n	%	
Mild	4	25.0	52	32.1	10	45.5	0.470
Moderate	4	25.0	61	37.7	7	31.8	
High	8	50.0	49	30.2	5	22.7	

\*: Significant at  $P \leq 0.05$ .

## Comparison of Way of Coping and Depression Levels

Table 6 displays a comparison of coping strategies and depression. One-half (50%) of those who were medium resilient copers expressed high depression levels, compared to 30.9 % of them who expressed moderate depression levels. At the same time, slightly more than two-fifths (43.8%) of those who were low resilient copers expressed high depression levels. Approximately two-fifths (40.9%) of those who expressed high depression levels were highly resilient copers. Coping strategies did not differ among different depression levels ( $p = 0.297$ ).

**Table 6:** Comparison of ways of coping and depression levels among parents (N=200).

Depression Levels	Coping Strategies						p-value
	Low Resilient		Medium Resilient		High Resilient		
	n	%	n	%	n	%	
Low	6	37.5	31	19.1	7	31.8	0.297
Moderate	3	18.7	50	30.9	6	27.3	
High	7	43.8	81	50.0	9	40.9	

\*:Significant at  $P \leq 0.05$

## Comparison of Socio-Demographic Characteristics and Anxiety Levels

The study revealed there was a statistically significant difference in frequencies of various socio-demographic characteristics, including education level ( $p=0.011$ ), employment status ( $p=0.028$ ), marital status ( $p=0.022$ ), number of children ( $p=0.001$ ), child gender ( $p=0.028$ ), and child age ( $p=0.010$ ) among anxiety level (Table 7).

**Table 7:** Comparison of socio-demographic characteristics and anxiety levels among parents (N=200).

Socio-demographic	Category	Anxiety Levels						p-value
		Mild		Moderate		High		
		n	%	n	%	n	%	
Gender	Male	29	31.5	36	39.1	27	29.4	0.653
	Female	37	34.3	36	33.3	35	32.4	
Age group/year	<20	2	33.3	3	50.0	1	16.7	0.584
	20-40	27	31.4	30	34.9	29	33.7	
	>40	37	34.3	39	36.1	32	29.6	
Education level	Illiterate	3	17.6	9	53.0	5	29.4	0.011
	Primary	13	39.4	16	48.5	4	12.1	
	Secondary	26	46.4	16	28.6	14	25.0	
	University	24	25.5	32	34.1	38	40.4	
Income	<20,000	46	36.8	43	34.4	36	28.8	0.391
	20,000-50,000	18	33.3	20	37.1	16	29.6	
	>50,000	3	14.2	9	42.9	9	42.9	
Employment	Employed	29	31.5	29	31.5	34	37.0	0.028
	Unemployed	24	36.9	19	29.3	22	33.8	
	Self-employed	9	31.0	14	48.3	6	20.7	
	Student	4	28.6	10	71.4	0	0.0	
Marital status	Married	61	38.9	50	31.8	46	29.3	0.022
	Divorced	3	14.2	9	42.9	9	42.9	
	Widowed	3	13.6	13	59.1	6	27.3	

Socio-demographic	Category	Anxiety Levels						p-value
		Mild		Moderate		High		
		n	%	n	%	n	%	
Number of children	≤2	18	21.2	29	34.1	38	44.7	0.001
	>2	48	41.7	43	37.4	24	20.9	
Child gender	Male	54	38.3	45	31.9	42	29.8	0.028
	Female	12	20.3	28	47.5	19	32.2	
Child age/year	3-<8	34	45.9	19	25.7	21	28.4	0.010
	8-<13	18	26.9	23	34.3	26	38.8	
	13-17	15	25.4	30	50.8	14	23.8	
Child order	Elder	19	30.6	19	30.6	24	38.8	0.686
	Middle	29	34.9	32	38.6	22	26.5	
	Younger	18	32.7	21	38.2	16	29.1	
Child education	Home-based	12	24.0	20	40.0	18	36.0	0.082
	Mixture of classes	7	19.4	15	41.7	14	38.9	
	Regular	22	36.7	18	30.0	20	33.3	
	Special	25	46.3	19	35.2	10	18.5	

## Comparison of Socio-Demographic Characteristics and Depression Levels

Additionally, the result shows a significant difference in depression levels based on marital ( $p=0.035$ ) status and child education ( $p=0.002$ ) (Table 8).

**Table 8:** Comparison of socio-demographic characteristics and depression levels among parents (N=200).

Socio-demographic	Category	Depression Levels						p-value
		Mild		Moderate		High		
		n	%	n	%	n	%	
Gender	Male	21	22.6	28	30.3	43	47.1	0.864
	Female	23	21.3	31	28.7	54	50.0	
Age group/year	<20	1	16.7	2	33.3	3	50.0	0.681
	20-40	17	19.8	27	31.4	42	48.8	
	>40	27	25.0	30	27.8	51	47.2	
Education level	Illiterate	0	0.0	4	23.5	13	76.5	0.079
	Primary	6	18.2	15	45.4	12	36.4	
	Secondary	14	25.0	14	25.0	28	50.0	
	University	24	25.5	26	27.7	44	46.8	
Income	<20,000	23	18.4	34	27.2	68	54.4	0.191
	20,000-50,000	15	27.8	20	37.0	19	35.2	
	>50,000	6	28.6	5	23.8	10	47.6	
Employment	Employed	24	26.0	30	32.6	38	41.3	0.464
	Unemployed	14	21.5	15	23.1	36	55.4	
	Self-employed	4	13.8	10	34.5	15	51.7	
	Student	2	14.3	4	28.6	8	57.1	
Marital status	Married	39	24.8	47	29.9	71	45.3	0.035
	Divorced	3	14.2	9	42.9	9	42.9	
	Widowed	2	9.1	3	13.6	17	77.3	
Number of children	≤2	19	22.3	32	37.6	34	40.1	0.110
	>2	25	21.8	28	24.3	62	53.9	
Child gender	Male	30	21.2	42	29.9	69	48.9	0.937
	Female	14	23.7	17	28.8	28	47.5	
Child age/year	3-<8	16	21.6	25	33.8	33	44.6	0.493
	8-<13	17	25.4	20	29.8	30	44.8	
	13-17	11	18.6	14	23.8	34	57.6	
Child order	Elder	20	32.2	13	21.0	29	46.8	0.074
	Middle	16	19.3	30	36.1	37	44.6	
	Younger	8	14.5	16	29.1	31	56.4	

Socio-demographic	Category	Depression Levels						p-value
		Mild		Moderate		High		
		n	%	n	%	n	%	
Child education	Home-based	9	18.0	7	14.0	34	68.0	0.002
	Mixture of classes	14	38.9	10	27.8	12	33.3	
	Regular	15	25.0	21	35.0	24	40.0	
	Special	6	11.1	21	38.9	27	50.0	

n: number of cases, %: percent \*: Significant at  $P \leq 0.05$

### Comparison of Socio-Demographic Characteristics and Coping Levels

The study also compared respondents' socio-demographic characteristics and coping levels. The finding shows that there is a statistically significant difference in coping strategies based on parent's age ( $p=0.019$ ), marital status ( $p=0.009$ ), child education ( $p=0.002$ ), income ( $p<0.001$ ), and child age ( $p<0.001$ ) (Table 9).

**Table 9:** Comparison of socio-demographic characteristics and coping levels among parents (N=200).

Socio-demographic	Category	Coping Strategies						p-value
		Low		Medium		High		
		n	%	no	%	n	%	
Gender	Male	7	7.6	70	76.1	15	16.3	0.196
	Female	8	7.4	92	85.2	8	7.4	
Age group/year	<20	1	16.7	5	83.3	0	0.0	0.019
	20-40	8	9.3	75	87.2	3	3.5	
	>40	6	5.6	83	76.9	19	17.5	
Education level	Illiterate	1	5.9	15	88.2	1	5.9	0.273
	Primary	2	6.1	26	78.7	5	15.2	
	Secondary	5	8.9	41	73.2	10	17.9	
	University	8	8.5	80	85.1	6	6.4	
Income	<20,000	16	12.8	102	81.6	7	5.6	<0.001
	20,000-50,000	0	0.0	43	79.6	11	20.4	
	>50,000	0	0.0	17	81.0	4	19.0	
Employment	Employed	8	8.6	73	79.5	11	11.9	0.402
	Unemployed	7	10.8	52	80.0	6	9.2	
	Self-employed	0	0.0	24	82.8	5	17.2	
	Student	1	7.1	13	92.9	0	0.0	
Marital status	Married	13	8.3	129	82.1	15	9.6	0.009
	Divorced	0	0.0	20	95.2	1	4.8	
	Widowed	2	9.1	13	59.1	7	31.8	
Number of children	≤2	3	3.5	69	81.3	13	15.2	0.061
	>2	12	10.4	94	81.7	9	7.9	
Child gender	Male	13	9.2	110	78.0	18	12.8	0.236
	Female	2	3.4	52	88.1	5	8.5	
Child age/year	3-<8	10	13.5	61	82.4	3	4.1	<0.001
	8-<13	6	9.0	56	83.5	5	7.5	
	13-17	0	0.0	45	76.3	14	23.7	
Child order	Elder	4	6.5	54	87.0	4	6.5	0.306
	Middle	8	9.6	62	74.7	13	15.7	
	Younger	4	7.3	46	83.6	5	9.1	
Child education	Home-based	4	8.0	35	70.0	11	22.0	0.002
	Mixture of classes	0	0.0	34	94.4	2	5.6	
	Regular	7	11.7	44	73.3	9	15.0	
	Special	4	7.4	50	92.6	0	0.0	

## DISCUSSION

The present study explores anxiety, depression, and coping strategies among parents of children with autism at the Zayed Higher Organization for People of Determination in Abu Dhabi. Findings suggest a complex interplay between these mental health concerns and socio-demographic factors, shedding light on how parental stress and mental health are impacted by raising a child with autism.

The study revealed that 36.0% of participants experienced moderate levels of anxiety, while 31.0% had high levels of anxiety. Interestingly, no significant difference in coping strategies based on anxiety level. This is consistent with several studies. Parents of children with ASD face higher anxiety levels compared to parents of typically developing children. Mothers of children with more severe autism symptoms experienced higher levels of anxiety and stress [3]. Likewise, Syriopoulou-Delli *et al.* (2020) emphasized that parents of autistic children worry more about their child's future and possible psychiatric comorbidities [12].

Further supporting this finding, Schnabel *et al.* (2020) reported that parents of children with ASD have a higher prevalence of anxiety disorders (33%) compared to the general population (3.6%) [13]. On the other hand, studies like Demsar and Bakracevic (2023) contradict these findings, as they showed that coping strategies focused on growth and positive reinterpretation significantly reduced anxiety levels among parents [14].

Depression was a prevalent issue, with 48.5% of participants reporting high levels of depression. Like anxiety, coping strategies did not differ among different depression levels. However, this result aligns with several other studies. For instance, Li *et al.* (2022) found that more than half of their participants reported high levels of depression [15]. Similarly, Schnabel *et al.* (2020) noted that 37.5% of parents in their meta-analysis reported clinically significant depressive symptoms [13].

Interestingly, the findings diverge from studies such as Cohrs and Leslie (2017), which found a significantly lower prevalence of depression (12.5%) among parents in the US. This difference may be attributed to variations in cultural contexts, the scales used, and coping strategies available in different regions. Factors such as stigma, social support, spirituality, and knowledge about autism can also influence depression levels. Stigmatization, particularly when linked to cultural beliefs, can exacerbate depression among parents of autistic children by isolating them socially and emotionally [16].

In terms of social support, research shows that formal and informal support networks, including family, friends, and professional counseling, play a vital role in protecting against depression and anxiety. Su (2018) and other studies highlight how a lack of social support worsens

parenting stress, while supportive environments can lead to better mental health outcomes for parents [17].

Religion and spirituality, particularly in Islamic contexts, are also significant influences. Many parents find solace in believing their child's condition is a divine test or gift, which helps them accept and cope with their challenges. However, this can also be a source of stigma if societal or religious beliefs frame autism as a curse or punishment.

The study found no statistically significant difference in coping levels based on depression or anxiety levels. This contrasts with the findings by Ulu *et al.* (2022), who reported that parents under high emotional distress often turn to maladaptive coping mechanisms [18]. Similarly, Ni'matuzahroh *et al.* (2021) found a negative correlation between high levels of stress and inadequate coping strategies, with parents of autistic children often using escape-avoidance tactics [19].

Lai (2015) suggested that parents of children with ASD experience more stress and depressive symptoms than those of typically developing children [20]. In these cases, caregiving stress can be heightened by environmental and cultural pressures, suggesting that interventions should focus on improving parents' coping abilities to manage their mental health more effectively.

It is crucial to address the chronic nature of ASD and its effects on family dynamics. Parents need continuous support, and effective coping strategies can reduce their emotional burnout and anxiety. Parents can improve their well-being and enhance their ability to care for their children by promoting awareness, early intervention, and family support services.

The study highlighted significant differences in frequencies of several socio-demographic factors with anxiety, depression, and coping levels:

**Educational Level:** A significant difference was found in education characteristics and anxiety levels. Parents with higher education reported greater anxiety. This aligns with studies by Lin *et al.* (2023) and Ilias *et al.* (2018), which showed that better-educated parents may have heightened awareness of their child's condition, leading to increased stress and anxiety [21, 22].

**Income:** There was a statistically significant difference in income levels and coping strategies, with higher-income parents showing more resilience. Literature supports this, noting that financial strain exacerbates stress and depression among parents of children with ASD, especially when managing the high costs of care and special education [23].

**Employment:** Employment status was significantly difference in anxiety levels, as parents often face the added pressure of balancing work and caregiving responsibilities. Studies like Thomaidis *et al.* (2020) report that some parents must take on additional jobs or

extend working hours to cover the costs of specialized care, thereby increasing stress and anxiety [24].

**Marital Status:** Marital status was significantly difference in depression level, echoing findings by Gabriel (2018) that highlight how caring for an autistic child can strain marriages, leading to increased social isolation and depression [25].

**Number of Children:** Parents with more children reported higher anxiety levels, consistent with research by Akarsu and Kostak (2021), which found that mothers with more than two children experience greater emotional exhaustion and anxiety [26].

**Child's Age and Education:** Parents with older children were reported to have higher parental anxiety, while children's education was linked to lower depression levels. Studies such as Mahapatra *et al.* (2019) indicate that specialized education can improve parental coping by increasing autism awareness and providing structured support for their children [27].

### Clinical Implications of the Findings

These findings highlight the need for comprehensive support services to help parents of children with autism manage mental health challenges. The study underscores the importance of multidisciplinary teams in providing structured support, which can empower parents and improve developmental outcomes for their children.

Family-centered interventions are crucial in reducing caregiver stress, strengthening parent-child relationships, and enhancing emotional resilience. These interventions should focus on positive communication strategies between spouses to foster mutual understanding and support.

Additionally, psychoeducation programs can equip parents with knowledge about autism across different life stages, helping them navigate caregiving challenges effectively. Collaborative partnerships between parents and professionals are essential for improving child development outcomes and family well-being.

These insights can inform policies that prioritize accessible mental health support, family-centered care models, and integrated healthcare planning for families raising children with autism.

### LIMITATION

This study provides only a single-time snapshot of participants' experiences, limiting the ability to track long-term changes in mental health and coping strategies. Additionally, the study did not account for the role of social support, which may significantly impact the generalizability of the findings across diverse populations.

Future research should include a larger and more diverse population across different settings to enhance

the generalizability of the findings. Additionally, regular follow-ups and ongoing monitoring of family caregivers' stress and coping mechanisms are essential for a deeper understanding of their long-term challenges and needs.

### CONCLUSION

This study highlights the significant psychological burden experienced by parents of children with autism, particularly concerning anxiety, depression, and coping strategies. Findings indicate that a substantial proportion of parents experience moderate to high levels of anxiety and depression, emphasizing the need for targeted mental health interventions. Coping strategies varied among parents, but no significant differences were observed based on anxiety or depression levels, suggesting the necessity of personalized support mechanisms.

Additionally, socio-demographic factors, including education level, employment status, marital status, number of children, and household income, were significantly associated with anxiety, depression, and coping levels. These findings underscore the need for culturally sensitive and accessible mental health support services that consider the unique challenges faced by parents in the UAE.

Given the chronic nature of ASD and its impact on family well-being, long-term interventions focusing on parental education, financial assistance, and community support networks are essential. Future research should employ longitudinal designs to explore causal relationships and assess the effectiveness of targeted mental health programs for parents of children with ASD.

### LIST OF ABBREVIATIONS

ASD : Autism Spectrum Disorder  
HADS : Hospital Anxiety and Depression Scale  
SPSS : Statistical Package for Social Sciences  
WOC : Way of Coping

### ETHICS APPROVAL

This study was approved by the Human Research Ethics Committee of Universiti Sains Malaysia (USM/ JEpeM/20120669), and permission was obtained from the director of Hospital Universiti Sains and the Chief of Zayed Higher Organization. All procedures performed in studies involving human participants followed the ethical standards of the institutional and/ or national research committee and the Helsinki Declaration.

### CONSENT FOR PUBLICATION

Informed consent was taken from the parents of the autistic children who were selected to participate.

### AVAILABILITY OF DATA

All data generated or analyzed during this study are included in this published article.

### FUNDING

None.

### CONFLICT OF INTEREST

The authors declare no conflict of interest.

### ACKNOWLEDGEMENTS

We sincerely appreciate all authors' dedication, expertise, and contributions to this study. Their collaborative efforts have been essential in shaping and enriching this work.

### AUTHORS' CONTRIBUTION

Abeer Al Odat: Literature search, data collection, conceptualization of study design, write up, data entry, data analysis, Hasni Embong: Literature search, proofreading, write up, intellectual input, revision and approval of the final version of the manuscript to be published, Nor Hasmah Mohd Zain: Data interpretation, critical intellectual input, proofreading, Nur Adibah Solihin Sulaiman: Literature search, critical intellectual input.

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