

Article type:  
Original Research

1 University of Babylon, College of Nursing, Iraq.  
2 University of Babylon, College of Nursing, Iraq.

Corresponding author email address:  
nur856.ali.jaleel@student.uobabylon.edu.iq



Article history:

Received 23 Jul 2025  
Revised 27 Aug 2025  
Accepted 19 Sep 2025  
Published online 01 Nov 2025

How to cite this article:

Aser, A. J., & Hasan, A. M. (2025). Parental Adjustment to Raising Children with ADHD and Its Socio-Demographic Correlates: A Cross-Sectional Study. *International Journal of Body, Mind and Culture*, 12(8), 49-58.



© 2025 the authors. This is an open-access article under the terms of the Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC 4.0) License.

# Parental Adjustment to Raising Children with ADHD and Its Socio-Demographic Correlates: A Cross-Sectional Study

Ali Jalil. Aser<sup>1\*</sup>, Abdul Mahdi A. Hasan<sup>2</sup>

## ABSTRACT

**Objective:** To assess behavioural and social parental adjustment to raising children with attention-deficit/hyperactivity disorder (ADHD) and to examine its association with selected socio-demographic characteristics of parents and their children in Babylon, Iraq. **Methods and Materials:** This analytical cross-sectional study was conducted from 13 October 2024 to 16 March 2025 in ADHD centres in Babylon City. A purposive sample of 114 parents of children aged ≤14 years diagnosed with ADHD was recruited. Data were collected through face-to-face interviews, followed by completion of a self-administered questionnaire including the 17-item “Maintaining family integration, cooperation, and an optimistic definition of the situation” subscale of the Coping Health Inventory for Parents (CHIP). Descriptive statistics, chi-square tests, and multiple linear regression were used to analyse the data, with  $p \leq 0.05$  considered statistically significant.

**Findings:** More than half of the parents (55.3%) demonstrated a fair level of overall adjustment, whereas 22.8% and 21.9% showed poor and good adjustment, respectively. Significant associations were found between adjustment level and several socio-demographic variables, including mothers’ and fathers’ education, mothers’ and fathers’ occupation, monthly income, socio-economic status, child’s age, and duration of diagnosis ( $p < 0.05$ ). In multivariate analysis, younger child age remained significantly associated with higher adjustment scores, while other variables did not retain statistical significance.

**Conclusion:** Most parents of children with ADHD in Babylon exhibit moderate adjustment, with better adjustment linked to higher education, professional occupations, and more favourable socio-economic conditions. These findings highlight the need for targeted psychoeducational and counselling programs to strengthen coping and family integration among parents of children with ADHD.

**Keywords:** Parents, attention-deficit/hyperactivity disorder, coping, parental adjustment, socio-demographic factors.

## Introduction

Attention Deficit-Hyperactivity Disorder, a long-term neurodevelopmental disease often associated with disruptive classroom conduct, often leads to a referral to assessing and treating physicians. Social problems, learning disorders, externalizing behavior problems, psychological problems, peer relations issues, and low self-esteem are just a few of the functional challenges that these problems might cause for the child (Brahmbhatt et al., 2016; Lasisi et al., 2017). Others described it as developmentally inappropriate levels of hyperactivity and/or impulsivity that affect youngsters in several contexts (at home, at school, or at work; with friends or family) (Singh et al., 2015). There is no known origin for ADHD; some ideas suggest that neurological dysfunctions may be the primary reason, while others attribute its development to familial stress (Townsend & Morgan, 2017).

Parents use a range of coping strategies in response to stress. High levels of stress might make it difficult for parents to evaluate their child's impairment. When a parent's stress reaction persists, it can exacerbate anxiety and a sense of powerlessness, making the child's situation seem worse than it is. This viewpoint may limit the parent's ability to manage the stressor in a healthy way (Atallah Attia Moawad et al., 2022). The capacity to adapt to and overcome adversity by drawing on prior experiences is a component of resilience (George et al., 2024). Parents of children with ADHD may greatly benefit from effective resilience techniques, such as social and familial support, which can improve their mental health (Karimirad et al., 2019). By encouraging closer ties and more adaptable processes, family resilience may improve overall functioning and well-being (Arya et al., 2015; SUZUKI et al., 2013).

The development of executive function, attention, and self-regulation in children is greatly influenced by parenting and the home environment. It may also affect the likelihood of developmental disorders like attention-deficit/hyperactivity disorder (ADHD) (Claussen et al., 2024). This research is required in Babylon City to understand better the unique challenges parents face when adjusting to raising children with Attention Deficit Hyperactivity Disorder (ADHD), within the local medical,

social, and cultural setting. Although ADHD commonly results in behavioral, emotional, and academic problems that create much stress for families, there is a dearth of research in Iraq, and particularly in Babylon, on how parents cope with the disorder and what support systems are available. By investigating how parents adapt.

## Methods and Materials

### *Study design*

This study is an analytical cross-sectional design conducted on parents of children with attention-deficit hyperactivity disorder (ADHD). The study was conducted in Babylon city, including the attention-deficit/hyperactivity disorder (ADHD) centers. The data was collected from 13<sup>th</sup> October, 2024, to 16<sup>th</sup> March, 2025

### *Participants and Sampling*

A Purposive sample (Non-random sampling technique) of 114 parents of children with attention deficit hyperactivity disorder. Data was collected through personal interviews with every parent. Parents then answer the self-administered questionnaire. Purposive sampling was used in this study on parental adjustment to raising children with ADHD to ensure the selection of participants who have direct, relevant experience with the condition. This method allows for the intentional inclusion of parents who are actively caring for children diagnosed with ADHD, providing rich, in-depth insights into their coping strategies, emotional responses, and support needs. Since the study aims to explore specific experiences rather than generalize to the broader population, purposive sampling is appropriate for gathering meaningful, targeted data that directly address the research objectives.

According to the Epi info suggested by the CDC was used to estimate the sample size based on the population size (692000) according to age structure in Iraq Sajit & Eyal, (2024), which reported frequency of children for age 0-14 years was 34.6% from summation of Babylon population estimated 2000000, the predicted rate of 5% based on the ADHD prevalence reported in population Fayyad et al., (2017), and the confidence interval of 95% margin of error (0.04) while we selected 114 parents.

**Inclusion criteria:** This study includes parents of children with attention-deficit hyperactivity disorder. In addition, the study consists of children aged up to 14 years diagnosed with ADHD. **Exclusion criteria:** The study excluded if one of the parents was deceased; Parents whose children were over 15 years old; parents who had children with other neurological disorders; Parents who resided outside of Babylon city; and illiterate parents.

#### *Instruments*

According to [McCubbin et al. \(1983\)](#), the Coping Health Inventory for Parents (CHIP) includes 17 items assessing maintaining family integration, cooperation, and an optimistic definition of the situation. The Likert respondent scale was used to rate the four levels. A grade of (4) was given for "Extremely helpful," (3) for "Moderately helpful," (2) for "Minimally helpful," and (1) for "Not helpful." Regarding the assessment of maintaining family integration, cooperation, and an

#### *Ethical consideration*

Ethical approval was obtained from the scientific and ethical committee at the College of Nursing / Babylon University (No. 42/18/9/2024), the Babylon Education Directorate (No. 3399/30/9/2024), and, finally, verbal consent was obtained from the parents before the interview began. Participants were allowed to leave the study at any time, and the researcher pledged to maintain the confidentiality and anonymity of the data. The tool did not include any personal information, such as address, phone number, or other personal details. To gather information from all participants, closed-ended questions were used, ensuring data integrity and openness. Ethical principles include competence, non-discrimination, honesty, impartiality, carefulness, openness, respect for intellectual property, confidentiality, responsible mentorship, and social responsibility. Mutual respect and understanding helped to instill confidence in the inquiry among the respondents. The precise purpose of the study was explained to each responder before they started answering the questionnaire. Respondents were assured that the data-gathering process would not cause them any bodily or psychological harm. And their cultural values will be fully respected. Throughout the research, they were never coerced, pressed, evaluated, or managed.

#### *Statistical analysis*

optimistic definition of the situation, 17 items were included in the adjustment assessment, with a minimum score of 17 and a maximum of 68. The median score was 43. A good adjustment was defined as a score of >56 (>75%), A fair adjustment was defined as a score of 43-56 (50-75%), and A poor adjustment was defined as a score of <43 (<50%). The above scores (poor, fair, and good) were distributed similarly to those reported in the previous study ([Omar et al., 2017](#)). After recruiting 10 parents for the pilot study, we used Cronbach's alpha, a questionnaire reliability measure, with higher values indicating greater internal consistency. The Alpha of Cronbach for all dimensions was 0.88. For a minor modification, all expert observations were incorporated. The majority of them concurred that the questionnaire was adequate for the study, straightforward, and easy to grasp.

Every item on the survey was copied to a code sheet, the data was entered into a computer, and the SPSS-27 statistical program was used to analyze the data. The data were presented using basic statistics, including frequency, percent, mean, standard deviation, and range. To determine the significance of percentage differences in qualitative data, a chi-square test (also known as an X2 Test) was used. When the P-value was 0.05 or lower, it was deemed statistically significant ([Benjamin et al., 2018](#)).

#### *Findings and Results*

In Table 1, the results of this study indicate that the highest percentage 38 (33.3%) of mothers belonging to age group (34-41 years), followed by 37 (32.5%) 26-33 years, 21 (18.4%) 18-25 years, 14 (12.3%) 42-49 years, and 4 (3.5%) 50-57 years. The mean age of mothers was  $33.3 \pm 8.2$  with a range of 18-57 years. Regarding age groups of fathers, the results found that the highest percentage 41 (36.0%) of fathers belonging to age group (36-43 years), followed by 36 (31.6%) 28-35 years, 23 (20.2%) 44-51 years, 7 (6.1%) 52-59 years, and 7 (6.1%) 20-27 years. The mean age of fathers was  $38.1 \pm 8.1$  with a range of 20-59 years. A high percentage (86.0%) of parents live in urban areas. In contrast, the lowest percentage (14.0%) of them live in rural areas. Regarding the educational level of mothers, the highest percentage (38.6%) has a college or higher education,

followed by 21.9% intermediate, 21.1% read, write, and primary, and 18.4% secondary. As for fathers' educational level, the highest percentage (40.4%) has a college or higher education level, followed by 26.3% who have read and written and have a primary education, 19.3% who have an intermediate education level, and 14.0% who have a secondary education level. More than half (53.5%) of mothers were unskilled workers. At the

same time, 55.3% of fathers have low professional occupations. Concerning monthly income, 68.4% of the parents have a medium monthly income. Finally, the highest percentage of participants (46.5%) has a medium socio-economic status, followed by 38.6% of parents with high socio-economic status. At the same time, the lowest percentage (14.9%) of the participants has a low socio-economic status.

**Table 1**

*The distribution of participants according to the Socio-demographic characteristics of parents*

Socio-demographic characteristics of parents		Freq.	%
Age groups of mothers	18-25 years	21	18.4
	26-33 years	37	32.5
	34-41 years	38	33.3
	42-49 years	14	12.3
	50-57 years	4	3.5
	<b>Mean <math>\pm</math>SD (Range)</b>	<b>33.3<math>\pm</math>8.2 (18-57)</b>	
Age groups of fathers	20-27 years	7	6.1
	28-35 years	36	31.6
	36-43 years	41	36.0
	44-51 years	23	20.2
	52-59 years	7	6.1
	<b>Mean <math>\pm</math>SD (Range)</b>	<b>38.1<math>\pm</math>8.1 (20-59)</b>	
Residence	Rural	16	14.0
	Urban	98	86.0
The education level of the mother	Read & write, and primary	24	21.1
	Intermediate school	25	21.9
	Secondary school	21	18.4
	College and above	44	38.6
Occupation of the mother	Unskilled workers	61	53.5
	Low professional	21	18.4
	High professional	32	28.1
The education level of the father	Read & write, and primary	30	26.3
	Intermediate school	22	19.3
	Secondary school	16	14.0
	College and above	46	40.4
Occupation of father	Unskilled workers	9	7.9
	Low professional	63	55.3
	High professional	42	36.8
Monthly Income	Low	17	14.9
	Medium	78	68.4
	High	19	16.7
Socio-economic status	Low (1-6 score)	17	14.9
	Medium (7-12 scores)	53	46.5
	High (13-18 scores)	44	38.6
	<b>Mean <math>\pm</math>SD (Range)</b>	<b>11.3<math>\pm</math>4.4 (3-18)</b>	

In Table 2, the study report that the highest percentages (53.5%, 50.9%, 48.2%, 43.9%, 39.5%, 47.4%, 42.1%, 36.8%, 49.1%, 37.7%, 39.5%, 36.0%, 36.0%, 45.6%, and 45.6%) of the parents reported with moderately helpful regarding "Believing that my child is receiving the best medical care possible," "Being able to get away from the home care tasks and responsibilities for some relief," "Being able to get away from the home care tasks and responsibilities for some relief," "Believing that the medical center, hospital has my family's best interests in mind," "Being able to get away from the home care tasks and responsibilities for some relief," "Eating meals regularly," "Believing that my

spouse and/or other family members are getting better care." "Talking to someone (not professional counsellor, doctor) about how I feel", "Talking with other parents in the same type of situation and learning about their experiences", "Building close relationships with people", "Reading more about the medical problems which concerns me", and "Being sure prescribed medical treatment for children are carried out at home daily" respectively. While the highest percentage (47.4%) of parents reported being extremely helpful regarding "Believing that my child will get better". Finally, the highest proportion (37.7%) of the parents reported that "working outside employment" was not helpful.

**Table 2**

*The distribution of parents according to their answers about maintaining family integration, cooperation, and an optimistic definition of the situation*

Maintaining family integration, cooperation, and an optimistic definition of the situation (17-Items)	Not helpful		Minimally helpful		Moderately helpful		Extremely helpful	
	No.	%	No.	%	No.	%	No.	%
1. Believing that my child will get better	2	1.8	16	14.0	42	36.8	54	47.4
2. Building a closer relationship with my spouse	4	3.5	8	7.0	61	53.5	41	36.0
3. Doing things with family relatives	3	2.6	19	16.7	58	50.9	34	29.8
4. Believing that my child is getting the best medical care possible	5	4.4	15	13.2	55	48.2	39	34.2
5. Doing things together as a family (involving all members of the family)	7	6.1	25	21.9	50	43.9	32	28.1
6. Getting other members of the family to help with chores and tasks at home	26	22.8	21	18.4	45	39.5	22	19.3
7. Believing that the medical center, hospital, has my family's best interests in mind	10	8.8	29	25.4	54	47.4	21	18.4
8. Being able to get away from the home care tasks and responsibilities for some relief.	24	21.1	26	22.8	48	42.1	16	14.0
9. Regularly eating meals	6	5.3	33	28.9	42	36.8	33	28.9
10. Purchasing for myself and/or other family members	9	7.9	20	17.5	56	49.1	29	25.4
11. Working outside employment	43	37.7	23	20.2	31	27.2	17	14.9
12. Talking to someone (not a professional counsellor or doctor) about how I feel	14	12.3	29	25.4	43	37.7	28	24.6
13. Talking with other parents in the same type of situation and learning about their experiences	13	11.4	14	12.3	45	39.5	42	36.8
14. Building close relationships with people	8	7.0	28	24.6	41	36.0	37	32.5
15. Reading more about the medical problems that concern me	17	14.9	24	21.1	41	36.0	32	28.1
16. Being sure that prescribed medical treatment for children is carried out at home daily	17	14.9	14	12.3	52	45.6	31	27.2
17. Talking with the doctor about my concern about my children with the medical condition	11	9.6	19	16.7	52	45.6	32	28.1

The results showed that most parents (55.3%) have a fair level of adjustment, followed by 22.8% at the poor level and 21.9% at the sound level, in terms of maintaining family integration, cooperation, and an optimistic definition of the situation.

In Table 3, there is a statistically significant relationship between the overall adjustment assessment (17-Items) and demographic characteristics for parents and their children, such as the education level of mothers and fathers, occupation of mothers and fathers, monthly

Income, the socio-economic status, the age of the child in years, and the duration of diagnosis (P-value <0.05). This explain that high education of mothers and fathers, high professional occupations of mothers and fathers, high monthly income, high socio-economic status, age of child (3-5 years), duration of diagnosis (3-5 years) have good assessment levels of adjustment toward maintaining family integration, cooperation and an optimistic definition of the situation, at significantly level <0.05.

**Table 3**

*The relationship between the overall adjustment assessment (17 items) and demographic characteristics for parents and their children*

		Overall adjustment Assessment (17-Items)						Chi-Square P-value
		Poor (<43 scores)		Fair (43-56 score)		Good (>56 scores)		
		No.	%	No.	%	No.	%	
Age groups of mothers	18-25 years	4	19.0	11	52.4	6	28.6	0.879
	26-33 years	7	18.9	21	56.8	9	24.3	
	34-41 years	11	28.9	21	55.3	6	15.8	
	42-49 years	3	21.4	7	50.0	4	28.6	
	50-57 years	1	25.0	3	75.0	0	.0	
Age groups of fathers	20-27 years	0	.0	5	71.4	2	28.6	0.742
	28-35 years	7	19.4	19	52.8	10	27.8	
	36-43 years	11	26.8	23	56.1	7	17.1	
	44-51 years	7	30.4	11	47.8	5	21.7	
	52-59 years	1	14.3	5	71.4	1	14.3	
Residence	Rural	7	43.8	7	43.8	2	12.5	0.092
	Urban	19	19.4	56	57.1	23	23.5	
The education level of the mother	Read & write, and primary	10	41.7	10	41.7	4	16.7	0.044
	Intermediate school	8	32.0	13	52.0	4	16.0	
	Secondary school	3	14.3	15	71.4	3	14.3	
	College and above	5	11.4	25	56.8	14	31.8	
Occupation of the mother	Unskilled workers	19	31.1	34	55.7	8	13.1	0.039



The education level of the father	Low professional	3	14.3	13	61.9	5	23.8	0.001
	High professional	4	12.5	16	50.0	12	37.5	
	Read & write, and primary	13	43.3	11	36.7	6	20.0	
	Intermediate school	5	22.7	16	72.7	1	4.5	
Occupation of father	Secondary school	3	18.8	12	75.0	1	6.3	0.005
	College and above	5	10.9	24	52.2	17	37.0	
	Unskilled workers	5	55.6	2	22.2	2	22.2	
	Low professional	16	25.4	39	61.9	8	12.7	
Monthly Income	High professional	5	11.9	22	52.4	15	35.7	0.021
	Low	8	47.1	7	41.2	2	11.8	
	Medium	16	20.5	47	60.3	15	19.2	
	High	2	10.5	9	47.4	8	42.1	
Socio-economic status	Low (1-6 score)	7	41.2	9	52.9	1	5.9	0.014
	Medium (7-12 scores)	15	28.3	29	54.7	9	17.0	
	High (13-18 scores)	4	9.1	25	56.8	15	34.1	
	3-5 years	2	6.9	15	51.7	12	41.4	
Age of child in years	6-8 years	9	18.8	27	56.3	12	25.0	0.002
	9-11 years	8	34.8	14	60.9	1	4.3	
	12-14 years	7	50.0	7	50.0	0	.0	
	Male	24	25.3	51	53.7	20	21.1	
Sex	Female	2	10.5	12	63.2	5	26.3	0.374
	1st	6	12.5	30	62.5	12	25.0	
	2nd	8	29.6	14	51.9	5	18.5	
	3rd	6	30.0	9	45.0	5	25.0	
Sequence	4th	2	18.2	6	54.5	3	27.3	0.325
	5th and more	4	50.0	4	50.0	0	.0	
	3-5 years	13	15.3	47	55.3	25	29.4	
	6-8 years	6	40.0	9	60.0	0	.0	
Duration of diagnosis	9-11 years	7	50.0	7	50.0	0	.0	0.002

In Table 4, using Enter Standard multiple Linear Regression analysis, it was observed that a decrease in the child's age was significantly associated with an increase in the overall adjustment score ( $P < 0.05$ ). In

contrast, there is no significant association between the overall adjustment score (17-Items) and other variables ( $P > 0.05$ )

**Table 4**

*Enter Standard multiple- Linear Regression for some socio-demographic variables and overall adjustment score (17-Items).*

Model	Unstandardized Coefficients		Coefficients <sup>a</sup>		t	P-value	95.0% Confidence Interval for B	
	B	Std. Error	Beta				Lower	Upper
(Constant)	2.008	0.267			7.534	<0.001	1.480	2.536
The education level of the father	0.007	0.082	0.012		0.082	0.935	-0.156	0.169
Occupation of father	0.179	0.143	0.153		1.256	0.212	-0.104	0.463
Socio-economic status	0.141	0.137	0.138		1.028	0.306	-0.131	0.412
Age of child in years	-0.321	0.106	-0.433		-3.028	0.003	-0.531	-0.111
Duration of disorder	0.101	0.149	0.099		0.680	0.498	-0.194	0.397

a. Dependent Variable: overall Adjustment score

## Discussion and Conclusion

The results showed that the highest proportion of mothers belonged to the age group (34-41 years). In addition, the results showed that the highest percentage of fathers belonged to the age group (36-43 years). These results are consistent with the study findings by Nagy et al. (2018), who reported that less than half (45 %) of the parents were in the 31-40-year age group. This result is similar to that of Hussein (2024), who found that about half of the parents were aged 31-40. This age range is

typically associated with the period when parents have already established their families and are actively rearing young children, which increases the likelihood that ADHD symptoms will be detected and diagnosed during early childhood or school hours.

In this study, the mean ages of mothers and fathers were  $33.3 \pm 8.2$  and  $38.1 \pm 8.1$  years, respectively. These results are consistent with the study findings done by Atallah Attia Moawad et al. (2022), who reported a mean age of  $37.81 \pm 6.25$  years.

Regarding residence, most parents live in urban areas. This result is in agreement with the study findings done by [Bedawi \(2023\)](#), which found that 70% of parents of their children with ADHD live in urban areas. This result may be explained by knowledge, access to healthcare, and the availability of trained experts who can diagnose and treat ADHD. Urban areas have higher ADHD diagnosis rates. Urban lives also expose people to pollution, noise, and fast-paced living, which may worsen ADHD symptoms. City schools are more regimented and rigorous, so ADHD youngsters may struggle more openly, leading to early diagnosis.

Regarding the education level of mothers and fathers, the highest proportion of parents whose children with ADHD have an educational level of (College and above). This outcome aligns with [Bedawi's \(2023\)](#), which revealed that 43.3% of parents had a University education. Also, these results agreed with a similar study by [Cheung et al. \(2021\)](#), which reported that 41.2% of mothers of children with ADHD have higher education. Another study by [Lu et al. \(2022\)](#) reported that 57% of parents have a higher education. The increased frequency of parents with higher education may be due to their understanding of developmental and behavioral issues, access to healthcare, and familiarity with educational support networks. College-educated parents are more likely to notice and diagnose ADHD in their children. Higher education equips parents with the skills to advocate for their children's needs and ensure they receive appropriate interventions and accommodations. They may also be more likely to seek professional examinations rather than rejecting signs as typical kid behavior, increasing ADHD prevalence in their children.

In this study, more than half (53.5%) of mothers were unskilled workers. At the same time, 55.3% of fathers have low professional occupations. These results agreed with a similar study by [Danielsson et al. \(2024\)](#), which reported that most mothers were unskilled workers. In addition, a study by [Al-Ghannami et al. \(2018\)](#) reported that 53.3% of fathers worked in the public/military sector (lower professional occupation). Another study found that most parents worked in lower-skilled professional occupations ([Cueli et al., 2024](#)). A study by [El-Deen et al. \(2021\)](#) found that more than half of the mothers were homemakers. A possible explanation for the increased frequency of these occupations among

parents may be due to their compatibility with their educational level, as shown in this study.

Concerning monthly income, 68.4% of the parents have a medium monthly income. This result is consistent with the findings of [Lu et al. \(2022\)](#), who reported that more than half of the parents had high incomes. A possible explanation for this result is that middle-class families have better education and healthcare, which may raise awareness and diagnosis of ADHD.

Lastly, the largest proportion of individuals (46.5%) had a medium socioeconomic class, with high socioeconomic status (38.6%) coming in second. These findings concurred with those of a prior research by [Al-Ghannami et al. \(2018\)](#), which indicated that the majority of parents belonged to the middle socioeconomic group. Nonetheless, of the 42 studies included in the evaluation, 35 found a substantial univariate correlation between ADHD and socioeconomic disadvantage ([El-Deen et al., 2021](#)). This discrepancy across studies might be caused by variations in research methods, including study location, as well as other factors such as professional and educational attainment.

According to the findings, over half of parents have a decent level of overall adjustment evaluation toward their children with ADHD. This is followed by a poor degree of parental adjustment, which compromises collaboration, family integration, and an optimistic view of the situation. This result is consistent with a study by [Iseselo et al. \(2016\)](#), which found that over half of the parents lacked adequate coping mechanisms. According to related research by [Russell et al. \(2016\)](#), parents adapt well to their kids. According to [Mustafa et al. \(2022\)](#), parents of children with ADHD tended to utilize more coercive and punishment-based interactions about their children's performance. They reported feeling less confident in their ability to help their children.

The current study found that mothers and fathers with high levels of education have good adjustment scores towards children with ADHD. This result is consistent with the study findings by [Kousgaard et al. \(2018\)](#), which found that low parental education level is associated with family separation or non-adjustment. Another study by [Mustafa et al. \(2022\)](#) revealed a significant positive relationship between educational level and behavioural expression ( $r = 0.255, p < 0.05$ ). Furthermore, a study by [Stevens et al. \(2024\)](#) found that optimal levels of parental involvement and support,

within a strong parent-child relationship, are beneficial for parental adjustment among parents with high levels of education. The possible explanation of this result may be that parents with higher education levels are more likely to recognize and handle ADHD issues and have better adjustment ratings while parenting children with the disease. Educated parents may have more resources, support networks, and parenting tips. They are also better at navigating medical or educational institutions, advocating for their children, and adopting constructive measures. This improved knowledge and resourcefulness help parents and children adapt emotionally and behaviorally.

The present study found that mothers and fathers with high levels of occupation have good adjustment scores towards children with ADHD. This result agrees with the previous studies (El-Deen et al., 2021; Nagy et al., 2018), which discovered that parents with high levels of occupation have good adjustment scores towards children with ADHD. Higher parental occupation and greater opportunities to interact with the external world and acquire daily knowledge may help parents better understand their children.

In this study, parents with high income and socioeconomic level have a good adjustment score towards children with ADHD at a significance level of  $<0.05$ . This outcome aligns with the findings of recent studies (El-Deen et al., 2021; Enea & Rusu, 2020), which also reported similar results. We can discuss that these parents may have better access to private healthcare, professional therapists, and educational assistance to manage their child's illness. They may also have greater job flexibility and time for treatment, parent training, and support groups. Financial stability reduces stress, allowing parents to concentrate on their kids. Higher-educated parents may also better understand ADHD and use evidence-based behavioral management measures.

Our findings align with those of another research that used the FAD questionnaire (Foley, 2011). It suggested that family order and cohesion are challenges for parents of children with ADHD. Our results partially concurred with a study in the Islamic Republic of Iran that measured marital satisfaction among 200 parents of children with ADHD and 200 controls using the Evaluation and Nurturing Relationship Issues, Communication and Happiness (ENRICH) questionnaire. It revealed a modest degree of marital satisfaction

among parents of children with ADHD. Additionally, our findings are consistent with another Iranian research, Kasaei (2013), that used the Chulalongkorn Family Inventory and the FAD questionnaire with 30 families of children with ADHD and 30 control families. The functioning of the households of children with ADHD was lower than that of the controls. One reason is that parents of children with ADHD deal with emotional stress, anguish, and fatigue in addition to difficulties interacting with their children. The family's functioning may suffer if the kid does not comply with routine parental demands, which may lead to a spike in tension.

This study concluded that the largest proportion of parents has a moderate adjustment towards their children with ADHD. In addition, high levels of education, professional occupations, monthly income, and socioeconomic status are associated with better behavioral and social parental adjustment toward children with ADHD. There is a need for counseling centers for parents of children with ADHD. Create training programs that teach parents of children with ADHD stress-reduction strategies, including meditation, relaxation, and exercise, to help them become more tolerant of their own impatience.

### Acknowledgments

The authors express their gratitude and appreciation to all participants.

### Declaration of Interest

The authors of this article declared no conflict of interest.

### Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants. Ethical considerations in this study included the fact that participation was entirely optional.

### Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.



## Funding

This research was carried out independently with personal funding and without the financial support of any governmental or private institution or organization.

## Authors' Contributions

All authors equally contribute to this study.

## References

- Al-Ghannami, S. S., Al-Adawi, S., Ghebremeskel, K., Cramer, M. T., Hussein, I. S., Min, Y., Jeyaseelan, L., Al-Sibani, N., Al-Shammakhi, S. M., & Al-Mamari, F. (2018). Attention deficit hyperactivity disorder and parental factors in school children aged nine to ten years in Muscat, Oman. *Oman Medical Journal*, 33(3), 193. <https://doi.org/10.5001/omj.2018.37>
- Arya, A., Agarwal, V., Yadav, S., Gupta, P. K., & Agarwal, M. (2015). A study of the pathway of care in children and adolescents with attention deficit hyperactivity disorder. *Asian Journal of Psychiatry*, 17, 10-15. <https://doi.org/10.1016/j.ajp.2015.07.013>
- Atallah Attia Moawad, N., Mohamed Mourad, G., & Ata, F. (2022). Coping patterns among parents of Children with Attention Deficit Hyperactivity Disorder. *Egyptian Journal of Health Care*, 13(2), 448-457. <https://doi.org/10.21608/ejhc.2022.231189>
- Bedawi, R. M. (2023). *Five-Year Hospital-Prevalence of Attention Deficit Hyperactivity Disorder (ADHD) Among Adults Attending a Tertiary Hospital in Oman: A Cross-Sectional Study*. Sultan Qaboos University (Oman). <https://www.proquest.com/openview/0acd5cf5e9edf212bef8bd2d0c398e7d/1?pq-origsite=gscholar&cbl=2026366&diss=y>
- Benjamin, D. J., Berger, J. O., Johannesson, M., Nosek, B. A., Wagenmakers, E.-J., Berk, R., Bollen, K. A., Brembs, B., Brown, L., & Camerer, C. (2018). Redefine statistical significance. *Nature human behaviour*, 2(1), 6-10. <https://doi.org/10.1038/s41562-017-0189-z>
- Brahmbhatt, K., Hilty, D. M., Hah, M., Han, J., Angkustsiri, K., & Schweitzer, J. B. (2016). Diagnosis and treatment of attention deficit hyperactivity disorder during adolescence in the primary care setting: a concise review. *Journal of Adolescent Health*, 59(2), 135-143. <https://doi.org/10.1016/j.jadohealth.2016.03.025>
- Cheung, K., El Marroun, H., Dierckx, B., Visser, L., & Stricker, B. (2021). Maternal sociodemographic factors are associated with methylphenidate initiation in children in the Netherlands: a population-based study. *Child Psychiatry & Human Development*, 52(2), 332-342. <https://doi.org/10.1007/s10578-020-01016-2>
- Claussen, A. H., Holbrook, J. R., Hutchins, H. J., Robinson, L. R., Bloomfield, J., Meng, L., Bitsko, R. H., O'Masta, B., Cerles, A., & Maher, B. (2024). All in the family? A systematic review and meta-analysis of parenting and family environment as risk factors for attention-deficit/hyperactivity disorder (ADHD) in children. *Prevention Science*, 25(Suppl 2), 249-271. <https://doi.org/10.1007/s11121-022-01358-4>
- Cueli, M., Martín, N., Cañamero, L. M., Rodríguez, C., & González-Castro, P. (2024). The impact of children's and parents' perceptions of parenting styles on attention, hyperactivity, anxiety, and emotional regulation. *Children*, 11(3), 313. <https://doi.org/10.3390/children11030313>
- Danielsson, K., Arnberg, F. K., & Bondjers, K. (2024). Coping strategies and symptoms of Adjustment Disorder among adults with Attention Deficit Hyperactivity Disorder (ADHD) during the COVID-19 pandemic. *Plos one*, 19(8), e0309082. <https://doi.org/10.1371/journal.pone.0309082>
- El-Deen, G. M. S., Yousef, A. M., Mohamed, A. E., & Ibrahim, A. S. (2021). Socio-demographic and clinical correlates of parenting style among parents having ADHD children: a cross-sectional study. *Middle East Current Psychiatry*, 28(1), 72. <https://doi.org/10.1186/s43045-021-00151-3>
- Enea, V., & Rusu, D. (2020). Raising a child with autism spectrum disorder: A systematic review of the literature investigating parenting stress. *Journal of Mental Health Research in Intellectual Disabilities*, 13(4), 283-321. <https://doi.org/10.1080/19315864.2020.1822962>
- Fayyad, J., Sampson, N. A., Hwang, I., Adamowski, T., Aguilar-Gaxiola, S., Al-Hamzawi, A., Andrade, L. H., Borges, G., de Girolamo, G., & Florescu, S. (2017). The descriptive epidemiology of DSM-IV adult ADHD in the World Health Organization World Mental Health Surveys. *ADHD Attention Deficit and Hyperactivity Disorders*, 9(1), 47-65. <https://doi.org/10.1007/s12402-016-0208-3>
- Foley, M. (2011). A comparison of family adversity and family dysfunction in families of children with attention deficit hyperactivity disorder (ADHD) and families of children without ADHD. *Journal for Specialists in Pediatric Nursing*, 16(1), 39-49. <https://doi.org/10.1111/j.1744-6155.2010.00269.x>
- George, B. B., Dangroo, A. A., Sahu, K. K., & Arun, P. (2024). Stress, coping, and resilience among mothers of children with attention deficit hyperactivity disorder. *Indian Journal of Psychiatric Social Work*, 17-27. <https://doi.org/10.29120/ijpsw.2024.v15.i1.614>
- Hussein, S. H. (2024). Assessment of mothers' knowledge and practice regarding care for their children with attention deficit hyperactivity disorder. *Helwan International Journal for Nursing Research and Practice*, 3(6), 105-118. <https://doi.org/10.21608/hijnrp.2024.285253.1158>
- Iseselo, M. K., Kajula, L., & Yahya-Malima, K. I. (2016). The psychosocial problems of families caring for relatives with mental illnesses and their coping strategies: a qualitative urban-based study in Dar es Salaam, Tanzania. *BMC psychiatry*, 16(1), 146. <https://doi.org/10.1186/s12888-016-0857-y>
- Karimirad, M. R., Seyedfatemi, N., Oghli, S. H., Noorian, S., & Amini, E. (2019). Resilience of mothers of children with attention deficit hyperactivity disorder and its related underlying factors. *Journal of Preventive Epidemiology*, 4(2), e11-e11. <https://doi.org/10.15171/ijer.2019.28>
- Kasaei, F. (2013). Family functioning in children with attention-deficit/hyperactivity disorder. *Procedia-Social and Behavioral Sciences*, 84, 1864-1865. <https://doi.org/10.1016/j.sbspro.2013.07.049>
- Kousgaard, S. J., Boldsen, S. K., Mohr-Jensen, C., & Lauritsen, M. B. (2018). The effect of having a child with ADHD or ASD on family separation. *Social psychiatry and psychiatric epidemiology*, 53(12), 1391-1399. <https://doi.org/10.1007/s00127-018-1585-z>
- Lasisi, D., Ani, C., Lasebikan, V., Sheikh, L., & Omigbodun, O. (2017). Effect of attention-deficit hyperactivity disorder training program on the knowledge and attitudes of primary school teachers in Kaduna, North West Nigeria. *Child and adolescent psychiatry and mental health*, 11(1), 15. <https://doi.org/10.1186/s13034-017-0153-8>

- Lu, S. V., Leung, B. M., Bruton, A. M., Millington, E., Alexander, E., Camden, K., Hatsu, I., Johnstone, J. M., & Arnold, L. E. (2022). Parents' priorities and preferences for treatment of children with ADHD: Qualitative inquiry in the MADDY study. *Child: care, health and development*, 48(5), 852-861. <https://doi.org/10.1111/cch.12995>
- McCubbin, H. I., McCubbin, M. A., Patterson, J. M., Cauble, A. E., Wilson, L. R., & Warwick, W. (1983). CHIP--Coping Health Inventory for Parents: an Assessment of Parental Coping Patterns in the Care of the Chronically Ill Child. *Journal of Marriage & Family*, 45(2). <https://doi.org/10.2307/351514>
- Mustafa, Q. M., Iqbal, M. I. M., Paramita, P. P., & Mahmudiono, T. (2022). Sociodemographic Factors, Parental Stress, and Depressive Symptoms among Mothers of Children with ADHD. *Proceedings*, 82(1), 96. <https://doi.org/10.3390/proceedings2022082096>
- Nagy, S. S., Sayied, N. E., Kotb, F. N., & Zaki, S. M. (2018). Relation between Attention Deficit Hyperactivity Disorder Among School Age Children and Parents' Stress and Sense of Competence. *Minia Scientific Nursing Journal*, 4(1), 115-123. <https://doi.org/10.21608/msnj.2018.187777>
- Omar, T. E., Ahmed, W. M., & Basiouny, N. S. (2017). Challenges and adjustments of mothers having children with autism. *Alexandria Journal of Pediatrics*, 30(3), 120-129. [https://doi.org/10.4103/AJOP.AJOP\\_4\\_18](https://doi.org/10.4103/AJOP.AJOP_4_18)
- Russell, A. E., Ford, T., Williams, R., & Russell, G. (2016). The association between socioeconomic disadvantage and attention deficit/hyperactivity disorder (ADHD): a systematic review. *Child Psychiatry & Human Development*, 47(3), 440-458. <https://doi.org/10.1007/s10578-015-0578-3>
- Sajit, A. A. A., & Eyal, S. M. (2024). Population of Iraq: Demography and Diversity. In *The Geography of Iraq* (pp. 375-390). Springer. [https://doi.org/10.1007/978-3-031-71356-9\\_17](https://doi.org/10.1007/978-3-031-71356-9_17)
- Singh, A., Yeh, C. J., Verma, N., & Das, A. K. (2015). Overview of attention deficit hyperactivity disorder in young children. *Health psychology research*, 3(2), 2115. <https://doi.org/10.4081/hpr.2015.2115>
- Stevens, A. E., Lefler, E. K., Serrano, J. W., & Hartung, C. M. (2024). Transitioning to college with ADHD: a qualitative examination of parental support and the renegotiation of the parent-child relationship. *Current Psychology*, 43(4), 3134-3149. <https://doi.org/10.1007/s12144-023-04525-0>
- SUZUKI, K., KOBAYASHI, T., MORIYAMA, K., KAGA, M., & INAGAKI, M. (2013). A framework for resilience research in parents of children with developmental disorders. *Asian Journal of Human Services*, 5, 104-111. <https://doi.org/10.14391/ajhs.5.104>
- Townsend, M. C., & Morgan, K. I. (2017). *Psychiatric mental health nursing: Concepts of care in evidence-based practice*. FA Davis. [https://books.google.com/books?id=3a0-DwAAQBAJ&lpg=PA1&ots=mUYhEvMRDw&dq=Townsend%2C%20M.%20C.%2C%20%26%20Morgan%2C%20K.%20I.%20\(2017\).%20Psychiatric%20mental%20health%20nursing%3A%20Concepts%20of%20care%20in%20evidence-based%20practice.%20FA%20Davis.&lr&pg=PA1#v=onepage&q&f=false](https://books.google.com/books?id=3a0-DwAAQBAJ&lpg=PA1&ots=mUYhEvMRDw&dq=Townsend%2C%20M.%20C.%2C%20%26%20Morgan%2C%20K.%20I.%20(2017).%20Psychiatric%20mental%20health%20nursing%3A%20Concepts%20of%20care%20in%20evidence-based%20practice.%20FA%20Davis.&lr&pg=PA1#v=onepage&q&f=false)