



RESEARCH ARTICLE

THE IMPACT OF CARING FOR A CHILD WITH AUTISM SPECTRUM DISORDER ON STRESS AND EMOTIONAL WELL-BEING OF PARENTS IN AL-MADINAH CITY, SAUDI ARABIA

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Abstract

Introduction: Autism Spectrum Disorder (ASD) is a lifelong neurodevelopmental disorder with mental health impact for parents caring for an autistic child. Despite establishing centers for children with ASD and schools for their special education in Saudi Arabia, there is a lack of studies exploring the impact of ASD on parents. Therefore, a study assessed the impact of caring for a child with ASD on parental stress, emotional well-being, and associated factors in Al-Madinah City.

Methods: A cross-sectional study was conducted on parents of children with ASD in schools and Autistic Centers in Al-Madinah City, Saudi Arabia, using the Family Impact Questionnaire (FIQ), Autism Parenting Stress Index (APSI), and the Hospital Anxiety and Depression Scale (HADS) tools.

Results: Autism parenting mean stress, depression, and anxiety scores were 1.68 ± 0.88 , 8.50 ± 4.10 and 10.35 ± 5.30 , respectively. Autistic children's impact on their parents was significantly positively correlated to parents' stress ($p < 0.001$), depression ($p < 0.001$), and anxiety ($p < 0.001$). Parents' anxiety was associated with the relationship with their autistic child ($p = 0.001$). There was a significant association between nationality and depression among participants ($p = 0.032$). Post hoc test showed that age of less than 15 years was significantly associated with parental anxiety ($p < 0.001$), depression ($p < 0.001$), and stress ($p = 0.031$), while age of less than 5 years was associated with the impact on a family ($p = 0.002$). Having more than 5 children in the family was associated with parental anxiety ($p = 0.020$), depression ($p = 0.025$), and stress ($p = 0.032$), and motherhood was associated with stress ($p < 0.001$). Lastly, divorce was associated with child's impact on the family ($p = 0.019$).

Conclusion: Caring for children with ASD in Saudi Arabia significantly impacts the emotional well-being of parents and siblings, and the impact is influenced by factors such as the child's age, parent-child relationship, nationality, number of children, and marital status. Therefore, comprehensive support and policy initiatives should address this burden and ease the strain on parents caring for autistic children in Saudi Arabia.

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Introduction:-

Autism Spectrum Disorder (ASD) is a lifelong neurological and developmental disorder that is a qualitative abnormality in communication, learning, and social communication, characterized by strict repetitive behaviours[1]. Decades ago, it was considered rare, but recently ASD prevalence has increased to 1 in 68 children in 2014 from 1 in 150 children affected in 2002[2]. One study conducted in Taif, Saudi Arabia, found that the prevalence was 0.035%[3]. The Saudi Ministry of Health has indicated 1 in each 160 children has ASD[4]. Having a child with autism spectrum disorder (ASD) is commonly accompanied by difficulties and sufferance in parents' health and well-being. Some studies have found that the symptoms' severity is positively associated with parents' stress[5], and caring for an autistic child has more difficulties than caring for children with other developmental disorders[6]. Chronicity and increasing severity of ASD is associated with parents' exhaustion and may cause psychological stress and anxiety of parents [7], which may affect their child's cognitive, language, and social skills[8].Caring a child with ASD also may affect parents' job decisions, leading to giving up, not taking a job, or changing their job to accommodate their child's needs[9]. There is a scarcity of studies exploring the impact of caring for an autistic child on the mental health status of parents in Madinah, Saudi Arabia, despite few studies establishing a relationship between having an autistic child and anxiety, depression, and stress disorders among parents in other cities of Saudi Arabia [10,11] and neighboring countries like Oman [12].Therefore, this study evaluated the impact of caring a child with ASD on the stress and emotional well-being of parents in Al-Madinah City, Saudi Arabia, focusing on anxiety, stress, and depression, as well as associated factors.

Methods:-**Study design and setting**

A cross-sectional study was carried out from June 2023 to July 2023 on parents of autistic children studying at governmental schools and in Autistic Centers in Al-Madinah. Parents of children with other neuro-developmental disorders or autistic children attending non-governmental schools and Autistic Centers were excluded.

Sampling

The convenient sampling technique was used to select the parents. Since there were 660 autistic children registered in governmental schools and Autistic centers in Al-Madinah, considering a 95% confidence interval, response distribution of 50%, and a margin of error of 5%, the sample size was 244.

Data collection tool

We used a self-administered questionnaire for data collection. The questionnaire is divided into 4 parts:(1) Socio-demographic part with questions about the relationship of the parent with the autistic child, nationality, marital status (Married, divorced or widowed), age of the participant, level of education, number of children, housing, occupational status, family income, age of the autistic child's age when they first time noticed ASD behaviors on the child, and when received formal diagnosis.(2) The second part, with questions measuring the parents' attitude, consisted of 16 statements from Family Impact Questionnaire (FIQ) and the parents' response to their overall attitude while caring for children with ASD. The FIQ's Cronbach's alpha ranges from 0.83 to 0.92[5].The FIQ was translated by a translation specialist and double-checked by the research committee in the Preventive Medicine Program in Al-Madinah City. (3) The third part used the Autism Parenting Stress Index (APSI) [13]to measure perceived stress among parents/guardians of kids with autism, reflecting physical, social, and communication difficulties imposed by the disability. The APSI items fall into 3 categories: the main social incapacity, difficult-to-manage behavior, and physical issues, and are aimed to reveal how much stress parents are facing and what circumstances are affecting this stress. The APSI validity test yielded a Cronbach's alpha of .827, and it was translated by a translation specialist and double-checked by the research committee in the Preventive Medicine Program in Al-Madinah City. The fourth part assessed parents' mental health status using the Arabic edition of the Hospital Anxiety and Depression Scale (HADS), with seven items [14].

The questionnaire was pilot tested on 30 parents to determine the time needed to fill it and their understanding of the questions, and the results helped improve the questions' clarity.

Data collection procedure

The investigators contacted schools and centers with autistic children and asked to send the parents hard copies of the questionnaire. Wherever necessary, the investigators visited the schools and centers, met the parents, and then

handed them questionnaires to complete. The questionnaire copies were accompanied by an invitation letter describing the study and its purpose and inviting parents to participate voluntarily.

Statistical analysis

The collected data were coded, entered, and analyzed using the Statistical Package for Social Science (SPSS) version 21.0 (SPSS, Chicago, IL, USA) [27]. Categorical data were described using frequency number and percent as n (%), whereas continuous data were described using mean and standard deviation (mean \pm SD). For comparative analyses and identifying associations between variables, we performed correlation coefficient, t-test, and ANOVA. The P-value was set at <0.05 for significance.

Ethical considerations

Informed consent was received from parents before data collection. Confidentiality was ensured throughout this study. This study was approved by the Institutional Review Board Committee and official permission letters were obtained from the General Directorate of Health Affairs in Madinah city to the governmental schools of autistic and autistic centers, permitting the conduction of this study.

Results:-

A total of 251 participants were enrolled in this study (71.9%). Most participants were mothers, while 5.2% were brothers/sisters of the children, 84% were Saudis, and 82% were married. Most participants were 36 to 45 years old (49.4%), had bachelor's degrees (45.4%), and lived in rented houses (56.6%). Most participants had 2-3 children (33.5%) and 4-5 children (31.9%). Around two-thirds were not employed (67.7%), and most earned 5000-10000 Saudi rials (SAR) (35.9%), followed by those who earned less than 5000 SAR (29.1%). Most children they cared for were 6 to 10 years old (37.8%), followed by 11 to 15 years old (26.3%).

Most participants noticed ASD behaviors when the children were 2-3 years old (53.8%), and most children got diagnosed at 2-3 years (55%). Table 1 shows further details on the socio-demographic characteristics of the participants.

Table 1:- Socio-demographic characteristics of participants.

Descriptive variables	N(%)
Relationship to the autistic child	
Another brother/sister	13(5.18)
Father	55(21.91)
Mother	183(72.91)
Nationality	
Saudi	211(84.06)
Non-Saudi	40(15.94)
Marital status	
Married	206(82.07)
Divorced	28(11.16)
Widowed	17(6.77)
Age (years)	
less than or equal to 35 years	65(25.90)
36 to 45 years	124 (49.40)
More than 45 years	62(24.70)
The level of education	
Elementary or intermediate	39(15.54)
Secondary school	71(28.29)
bachelor's degree	114(45.42)
Postgraduate	27(10.76)
Number of children	
One	22(8.77)
Two – three	84(33.47)
Four – five	80(31.87)

More than five	65(25.90)
Housing	
Rented house	142(56.57)
Owned house	109(43.43)
Occupational status	
Employee (working)	81(32.27)
Unemployed (not working)	170(67.73)
Family Income (SAR)	
Less than 5000	73(29.10)
5000 to 10000	90(35.86)
11000 to 15000	44(17.53)
More than 15000	44(17.53)
The age of the autistic child	
Less than 5 years	50(19.92)
6 to 10 years old	95(37.85)
11 to 15 years	66(26.30)
More than 15 years old	40(15.30)
Age first time noticed ASD behaviors in the child	
Less than 2 years old	85(33.87)
Two years to three years old	135(53.79)
4 to 7 years old	31(12.35)
His/her age when you received a formal diagnosis	
Less than 2 years	34(13.55)
2 to 3	138(54.98)
4 to 6	79(31.47)

SAR: Saudi rials; ASD: Autism spectrum disorders

Children's impact on their parents had a mean score of 2.06 ± 0.36 , while their impact on siblings had a mean score of 2.17 ± 0.45 . Autism parenting mean stress score was 1.68 ± 0.88 , while the mean depression and anxiety scores were 8.50 ± 4.10 and 10.35 ± 5.30 , respectively (Table 2).

Table 2:- Attitudes of the parents toward the children with ASD on the FIQ scale.

Scale	Mean	SD
Family Impact Questionnaire (Autistic children's impact on their parents when compared with peers)	2.06	0.38
Family Impact Questionnaire (Autistic children's impact on their siblings)	2.17	0.45
Autism parenting stress scale	1.68	0.88
Hospital Anxiety and Depression scale; Depression domain (Total)	8.50	4.10
Hospital Anxiety and Depression scale; Anxiety domain (Total)	10.35	5.30

SD: Standard deviation

There was a low positive correlation between autistic children's impact on their parents and parents' stress ($p < 0.001$), depression ($p < 0.001$), and anxiety ($p < 0.001$). While there was no significant correlation between autistic children's impact on siblings and parents' depression ($p = 0.07$) and anxiety ($p = 0.05$), there was a negligible correlation between autistic children's impact on siblings and parents' stress ($p < 0.001$).

Table 3:- Correlation between autistic children's impact and parents' stress, depression, and anxiety.

	Autism parenting stress scale	HADS Depression domain			HADS Anxiety domain	
		p-value	r	p-value	r	p-value
FIQ (Autistic children's impact on their parents when compared with peers)	0.31	<0.001*	0.37	<0.001*	0.32	<0.001*
FIQ (Autistic children's impact on their siblings)	0.28	<0.001	0.13	0.07	0.13	0.05

siblings)		*				
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r = 0.90-1.00 (-0.90- [-1.00]): Very high positive (negative) correlation; r = 0.70-0.90 (-0.70- [-0.90]): High positive (negative) correlation; r = 0.50-0.70 (-0.50- [-0.70]): Moderate positive (negative) correlation; r = 0.30-0.50 (-0.30- [-0.50]): Low positive (negative) correlation; r = 0.00-0.30 (-0.00- [-0.30]): Negligible correlation.

*Statistically significant

Participants' relationship with the autistic child was significantly associated with their anxiety (p=0.001). Participants' depression scores were significantly associated with nationality (p=0.032) and the number of children they have in total (p=0.003). Autistic children's impact on their parents was significantly associated with marital status (p=0.025). The age of the autistic patient was significantly associated with Autistic children's impact on their parents (p=0.004), parents' stress scores (0.025), depression scores (p=0.001), and anxiety scores (p=0.001). The number of children was associated with parents' stress (p=0.004) and anxiety (p=0.016) (Table 4a) and (Table 4b).

Table 4a:- Association between socio-demographic characteristics and autistic children's impact on their parents, their siblings.

Variables	FIQ (Autistic children's impact on their parents when compared with peers)		FIQ (Autistic children's impact on their siblings)	
	Mean (SD)	p-value	Mean (SD)	p-value
Relationship to the autistic child		0.74		0.57
Brother/sister	2.15(0.43)		2.05(0.56)	
Father	2.05(0.34)		2.17(0.49)	
Mother	2.06(0.39)		2.10(0.43)	
Nationality		0.28		0.11
Saudi	2.10(0.37)		2.23(0.51)	
Non-Saudi	2.13(0.41)		2.10(0.43)	
Marital status		0.025*		0.64
Married	2.04(0.36)		2.12(0.45)	
Divorced	2.53(0.47)		2.04(0.47)	
Widowed	2.07(0.43)		2.15(0.43)	
Age (years)		0.11		0.4
less than or equal to 35 years	2.11(0.41)		2.12(0.50)	
36 to 45 years	2.04(0.34)		2.15(0.45)	
More than 45 years	2.00(0.33)		2.05(0.44)	
The level of education		0.26		0.8
Elementary or intermediate (Middle)	2.00(0.40)		2.06(0.41)	
Secondary school	2.01(0.37)		2.16(0.47)	
bachelor's degree	2.10(0.37)		2.12(0.44)	
Postgraduate	2.11(0.42)		2.10(0.50)	
Number of children		0.27		0.13
One	2.21(0.37)		1.80(0.51)	
Two – three	2.10(0.40)		2.16(0.41)	
Four – five	2.05(0.35)		2.10(0.48)	
More than five	2.02(0.40)		2.13(0.43)	
Housing		0.97		0.07
rented house	2.06(0.38)		2.16(0.47)	

Owned house	2.06(0.38)		2.06(0.42)	
Occupational status		0.16		0.55
Employee (working)	2.11(0.38)		2.14(0.47)	
Unemployed (not working)	2.04(0.37)		2.10(0.44)	
Family Income		0.28		0.28
Less than 5000	2.02(0.40)		2.02(0.40)	
5000 to 10000	2.05(0.34)		2.05(0.34)	
11000 to 15000	2.16(0.37)		2.16(0.37)	
More than 15000	2.07(0.40)		2.07(0.40)	
The age of the autistic Patient		0.004*		0.36
Less than 5 years	2.21(0.06)		2.15(0.47)	
6 to 10 years old	1.97(0.36)		2.16(0.43)	
11 to 15 years	2.10(0.42)		2.10(0.43)	
More than 15 years old	2.03(0.30)		2.02(0.50)	
Age first time noticed ASD behaviors in the child		0.08		0.077
Less than 2 years old	2.15(0.49)		2.15(0.50)	
Two years to three years old	2.14(0.43)		2.14(0.43)	
4 to 7 years old	1.98(0.40)		1.98(0.40)	
His/her age when you received a formal diagnosis		0.81		0.53
Less than 2 years	2.10(0.32)		2.06(0.63)	
2 to 3	2.05(0.37)		2.14(0.41)	
4 to 6	2.07(0.41)		2.10(0.44)	

*Statistically significant

Table 4b:- Association between socio-demographic characteristics and autistic children's impact on their parents' stress, depression, and anxiety.

Variables	Autism parenting-stress Index		HADS Depression Domain		HADS Anxiety domain	
	Mean (SD)	p-value	Mean (SD)	p-value	Mean (SD)	p-value
Relationship to the autistic child		0.48		0.12		0.001*
Brother/sister	1.63(1.22)		9.85(3.02)		9.40(3.40)	
Father	1.55(0.90)		7.60(4.17)		8.02(4.86)	
Mother	1.71(0.85)		8.62(4.11)		11.13(5.34)	
Nationality		0.73		0.032*		0.09
Saudi	1.68(0.87)		8.22(4.00)		10.11(5.24)	
Non-Saudi	1.63(0.93)		9.74(4.50)		11.65(5.50)	
Marital status		0.22		0.16		0.39
Married	1.65(0.89)		8.31(4.13)		10.30(5.42)	

Divorced	1.95(0.87)		9.82(4.00)		11.50(4.83)	
Widowed	1.57(0.70)		7.94(3.50)		9.41(4.43)	
Age (years)		0.51		0.09		0.11
less than or equal to 35 years	1.75(0.87)		8.75(3.80)		11.20(4.81)	
36 to 45 years	1.70(0.90)		8.80(4.31)		10.46(5.64)	
More than 45 years	1.57(0.83)		7.50(3.85)		9.26(5.00)	
The level of education		0.26		0.60		0.31
Elementary or intermediate (Middle)	1.50(0.91)		8.70(3.14)		11.15(4.92)	
Secondary school	1.61(0.83)		7.90(4.00)		10.00(5.64)	
bachelor's degree	1.79(0.87)		8.70(4.30)		10.65(5.10)	
Postgraduate	1.65(0.94)		8.70(4.84)		9.00(5.70)	
Number of children		0.04*		0.03*		0.016*
One	1.85(0.87)		9.14(4.23)		11.45(5.13)	
Two – three	1.84(0.80)		9.30(4.01)		11.60(4.75)	
Four – five	1.65(0.94)		8.30(4.34)		9.80(5.50)	
More than five	1.44(0.90)		7.40(3.63)		9.10(5.50)	
Housing		0.08		0.89		0.77
rented house	1.76(0.93)		8.43(4.15)		10.27(5.30)	
Owned house	1.56(0.79)		8.50(4.04)		10.50(5.35)	
Occupational status		0.18		0.58		0.12
Employee (working)	1.80(0.94)		8.25(0.47)		9.60(5.50)	
Unemployed (not working)	1.62(0.84)		8.60(4.06)		10.71(5.20)	
Family Income		0.07		0.33		0.10
Less than 5000	1.53(0.83)		8.35(4.15)		10.40(5.03)	
5000 to 10000	1.74(0.91)		8.26(0.40)		10.00(5.30)	
11000 to 15000	1.94(0.93)		9.50(4.42)		12.02(5.60)	
More than 15000	1.54(0.79)		8.04(4.30)		9.40(5.30)	
The age of the autistic Patient		0.025*		0.001*		0.001*
Less than 5 years	1.81(0.87)		10.60(3.53)		12.00(4.55)	
6 to 10 years old	1.76(0.86)		8.41(0.43)		10.72(5.60)	
11 to 15 years	1.70(0.90)		8.00(3.92)		10.30(5.44)	
More than 15	1.31(0.84)		6.80(3.90)		7.62(4.33)	

years old						
Age first time noticed ASD behaviors in the child		0.16		0.08		0.13
Less than 2 years old	1.80(0.98)		9.25(4.53)		11.26(5.83)	
Two years to three years old	1.66(0.83)		8.00(3.71)		9.78(5.00)	
4 to 7 years old	1.44(0.75)		8.35(4.20)		10.35(5.02)	
His/her age when you received a formal diagnosis		0.72		0.16		0.45
Less than 2 years	1.60(1.10)		9.12(4.47)		11.30(5.80)	
2 to 3	1.71(0.84)		8.70(3.87)		10.40(5.12)	
4 to 6	1.94(0.85)		7.75(4.24)		9.91(5.42)	

Post hoc test results in Table 5 revealed that an age of less than 15 years was the one significantly associated with parental anxiety (p<0.001), depression (p<0.001), and stress (p=0.031). Age of less than 5 years old was associated with the impact on a family (p=0.002). Having more than 5 children was associated with parental anxiety (p=0.020), depression (p=0.025), and stress (p=0.032). Being a mother was associated with stress (p<0.001), and divorce was associated with family impact (p=0.019).

Table 5:- Post hoc tests for the significant ANOVA.

		95% Confidence interval		SE	t	p-value	
		Mean difference	Lower	Upper			
Age association with parental anxiety^{&}							
< 5 years old	<15yearsold	4.335	1.502	7.168	1.095	3.958	<0.001*
6-10 years old	<15 years old	3.091	0.574	5.608	0.973	3.176	0.009*
11-15 years old	>15 years old	2.648	-0.028	5.324	1.0X	2.559	0.054
Age association with depression^{&}							
< 5 years old	6-10yearsold	2.168	0.359	3.978	0.699	3.100	0.012
	11-15years old	2.614	0.673	4.555	0.750	3.484	0.003
	<15yearsold	3.814	1.615	6.013	0.850	4.488	<0.001*
Age association with family impact^{&}							
< 5 years old	6-10yearsold	0.239	0.067	0.411	0.067	3.591	0.002*
Age association with parental stress^{&}							
< 5 years old	<15yearsold	0.508	0.032	0.983	0.184	2.763	0.031*
6-10 years old	<15 years	0.457	0.033	0.880	0.164	2.788	0.02

	old						9*
Number of children association with parental depression^{&}							
2-3 children	> 5 children	1.918	0.172	3.663	0.675	2.842	0.02 5*
Number of children association with parental stress^{&}							
2-3 children	> 5 children	0.395	0.023	0.767	0.144	2.750	0.03 2*
Number of children association with parental anxiety^{&}							
2-3 children	> 5 children	2.518	0.287	4.750	0.863	2.919	0.02 0*
Association between relationship with a child and parental stress[#]							
Father	Mother	-3.108	-4.978	- 1.237	0.793	-3.917	<0.001*
Marital status association with family impact[#]							
Married	Divorced	-0.216	-0.403	- 0.029	0.079	-2.731	0.01 9*

*Statistically significant; [#]p-value and confidence intervals adjusted for comparing a family of 3 estimates (confidence intervals using the Tukey method). [&]p-value and confidence intervals adjusted for comparing a family of 4 estimates (confidence intervals using the Tukey method).

Discussion:-

Caring for a child with ASD can pose significant challenges for parents, affecting their stress levels and emotional well-being. Parents of children with ASD are often overwhelmed and experience mental health problems. This study explored the impact of caring for a child with ASD on parental stress and emotional well-being in Madinah, Saudi Arabia.

The findings showed that children's impact on their parents had a mean score of 2.06 ± 0.36 , while their impact on siblings had a mean score of 2.17 ± 0.45 . These indicate that ASD is impactful to both parents and siblings. This aligns with a previous study conducted in Taif, Saudi Arabia which showed that ASD severity level was associated with a significant impact on the parents' mental health [10]. Another study conducted in New Zealand reported that most parents possessed clinical levels of psychiatric distress, especially anxiety and parenting stress, which was a significant predictor of child ASD symptom severity [15]. Our findings support these previous studies by showing abnormal parenting stress, depression, and anxiety levels (mean: 1.68 ± 0.88 , 8.50 ± 4.10 , and 10.35 ± 5.30 , respectively). Moreover, it was found that autistic children's impact on parents positively correlated with parental depression, stress, and anxiety (all $p < 0.001$). A study conducted in Oman found a high prevalence of depression among parents of children with ASD (71.3%) [12]. Though a study conducted in Saudi Arabia contrasts our findings by showing no significant association between ASD parental anxiety and depression, it found significantly high-stress levels among mothers of autistic children ($p = 0.04$) [11]. High levels of stress, anxiety, and depression may be attributed to several factors. Cultural factors may shape parents' experiences caring for a child with ASD in Saudi Arabia, including traditional beliefs, stigma, lack of awareness about ASD, the societal emphasis on conformity, and the pressure to maintain a positive image [16].

Our study showed a significant association between participants' relationship with the autistic child and their anxiety ($p = 0.001$), consistent with previous studies [10, 11, 16]. A previous study by Li et al. showed that mothers of children with severe symptoms of ASD reported significantly higher levels of stress, anxiety, and depression than fathers and had a higher prevalence of moderate-to-severe anxiety and depression (13.8% and 13.1%, respectively) compared to fathers with moderate-to-severe anxiety and depression prevalence of 9.9% and 8.0%, respectively [17]. Aligning with Li et al., we found that being a mother was associated with stress ($p < 0.001$). Similar findings were also reported in a study conducted in Riyadh and A-Madinah [11].

We found that the age of less than 15 years for the autistic child was significantly associated with parents' stress (0.031), depression ($p < 0.001$), and anxiety ($p < 0.001$). Previous research showed that a child's age may influence the relationship between the child and family and the psychological outcomes of parents of a child with ASD [6]. This is due to changes in middle childhood and exposure to social circumstances, necessitating considerable alterations in parental expectations, which may be associated with a higher risk of stress for parents than in both early childhood

and adolescence[18]. Families of younger children who need constant care and extra attention might be highly affected when raising autistic children, as evidenced by our finding that the age of less than 5 years was associated with family impact ($p=0.002$).

We also found a significant association between depression scores, nationality ($p=0.032$), and number of children ($p=0.003$). The burden of ASD on parents might be synergistic with challenges parents face in their daily activities, necessitating social support and effective coping mechanisms. However, in Saudi Arabia, social support networks for non-Saudi parents of children with ASD may be limited, exposing non-Saudi patients to depression more than Saudi parents. This also may be the reason having more than 5 children was associated with parents' anxiety ($p=0.020$), depression($p=0.025$), and stress ($p=0.032$), as caring for more children in addition to the autistic child depletes more parental physical and psychological energy, requiring more appropriate support and coping mechanisms, such as support groups, counseling, and respite care, to help parents cope with the challenges they face. Supporting this, a negative correlation was found between stress, anxiety, depression, and for and perceived social support [11]. Research has shown that parents of children with ASD who perceived their needs as unmet have higher levels of stress and despair than parents with appropriately addressed demands[19].Moreover, employed parents and parents who perceived more support from their friends reported fewer symptoms of stress, worry, and sadness[19], indicating the significance of social support in helping parents of children with ASD to cope.

This study also showed that Autistic children's impact on their parents was significantly associated with marital status ($p=0.025$). Single or widowed parents might experience more challenges raising children with ASD due to a lack of partner's support, either emotional or financial support. This is supported by our post hoc test findings that divorce was associated with family impact ($p=0.019$). These parents may experience feelings of guilt, grief, and social isolation, in addition to financial difficulties associated with the costly care of children with ASD and disruptions in their personal and professional lives. Previous studies indicated that family conflicts, financial demands, and marital discord significantly strain parents' mental health [20,21]. However, we found no significant association between the impact on children and income, aligning with a study conducted at Prince Mohammed Bin Salman Autistic Centre in Taif City [10].

This study was limited by its cross-sectional design, unable to establish the cause-and-effect relationships, is susceptible to confounding variables, and cannot measure impact over time. In addition to the self-administered questionnaire prone to over- and under-reporting, this design is also susceptible to recall bias. We could not study all factors other than socio-demographics. Therefore, further longitudinal studies on the impact of ASD should be conducted, exploring parental, child-related, and society-related factors associated with the impact of ASD on parents and families in Saudi Arabia.

Conclusion:-

The findings showed that caring for children with ASD impacts the emotional well-being of parents and siblings in Saudi Arabia, leading to higher rates of stress, depression, and anxiety. These mental health outcomes are associated with autistic child's age and relationship with their parents, nationality, the number of children, and marital status. Recognizing the unique needs of parents and providing comprehensive support services addressing identified factors is crucial to improving the well-being of families affected by ASD. Further research and policy initiatives are needed to address the multifaceted aspects of caring for a child with ASD in Saudi Arabia.

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