Impact of Parental Resilience on Physical and Psychological Health among Children with Autism Spectrum Disorder

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Abstract:

Background: Parental resilience has the potential to mitigate the risk of physical and psychological health issues in children with autism spectrum disorder (ASD), which can present significant challenges for parents. Additionally, individual differences among parents within families may contribute to resilience in distinct and varying ways. Parenting resilience is considered necessary for parents of children with autism spectrum disorder (ASD) to adapt to the difficulties associated with parenting children with ASD and could promote their children`s health. **Aim:** The study aims to assess the impact of parental resilience on physical and psychological health among children with ASD. **Research design**: A descriptive correlational study design was used to accomplish this study. **Settings**: Pediatric inpatient and outpatient neurological clinics affiliated with Sohag University Hospital and the African Institute for Dealing with Children with Special Needs in the Red Sea Governorate. **Sample:** a sampling that consisted of 46 parents and their children and adolescents, with a clinical diagnosis of autism spectrum disorders. **Data collection tools:** the tools include 3 tools; Tool I for sociodemographic characteristics, parental knowledge, and reported practices. Tool II Parental Resilience, and Tool III for physical and psychological children's data. **Results**: The current study found that 59.0% of the parents in the sample displayed a low resilience level. Additionally, there were statistically significant associations between the resilience of parents and their overall knowledge and practices regarding autism. These associations also extended to their children's physical and psychological health, with p-values of 0.054, 0.028, 0.057, and 0.013, respectively. **Conclusion:** The results of this study indicate that parental resilience affects both the physical and psychological health of children with autism spectrum disorder (ASD). Specifically, it was observed that a significant number of parents with low levels of resilience had children who exhibited poor physical and psychological health. Additionally, parental resilience was strongly linked to their knowledge and reported practices regarding autism. **Recommendations:** Preparing for implementing continuous health education and counseling initiatives aimed at supporting parents in the effective care of their autistic children. These programs are designed to enhance the growth and development of these children, ensuring that families receive the resources and guidance they need.

Key Words: Parental resilience, children's physical and psychological health, autism spectrum disorder.

Introduction:

Parental resilience is identified as one of the five protective factors that contribute to effective family functioning and the development of children. By promoting resilience, parents are better equipped to support their children's growth, particularly for those with autism. Furthermore, they can model effective coping strategies and establish a safe and supportive home environment **(American Psychological Association, 2021).**

Autism spectrum disorder (ASD) is a developmental disability marked by ongoing challenges in social interaction, as well as restricted and repetitive patterns of behavior, interests, or activities. These characteristics can lead to various difficulties in social relationships, communication, and everyday participation, ultimately impacting an individual's growth, development, and overall health negatively **(Maenner et al., 2021).** Parenting resilience was defined as the process of positive adaptation to the difficulties associated with rearing children with ASD Parenting resilience is considered necessary for parents of children with autism spectrum disorder (ASD) to adapt to the difficulties associated with parenting and their children's health. Parents of children with autism spectrum disorder (ASD) may face unique challenges and parenting demands, which could impact the physical and psychological health outcomes of their children **(Al-Jadiri et al., 2021).**

Caring for children with autism spectrum disorder (ASD) can be a significant challenge for parents and caregivers. They must manage numerous aspects of caregiving, which can be demanding and overwhelming, potentially impacting both the children's physical and mental well-being. However, learning resilience may help family members alleviate the stress and burdens associated with caring for a child with ASD, ultimately improving children's physical and psychological health **(Bonnin et al., 2018).**

Children diagnosed with autism spectrum disorder (ASD) frequently exhibit distinctive patterns in their physical growth and development. While the primary challenges associated with ASD primarily relate to communication, social interaction, and behavioral aspects, it is essential to recognize that physical development, including motor skills, growth trajectories, and sensory processing, also plays a crucial role and is significantly impacted. Children diagnosed with autism often demonstrate delays or atypical development in gross motor skills, which involve the use of large muscle groups for activities such as walking, running, and jumping. These difficulties may present as challenges with balance, coordination, and overall posture. Additionally, fine motor skills, which encompass smaller muscle movements required for tasks such as grasping objects, writing, and fastening clothing, may also be impacted. A comprehensive understanding of the dynamics of physical growth and psychological development is vital for parents, educators, and healthcare professionals. This knowledge is crucial for delivering appropriate support and interventions tailored to the needs of children with autism **(Mutabbakani & Callinan, 2020)** and **(Al-Jadiri et al., 2021)**

The severity of autism symptoms is a crucial factor influencing the physical and psychological health of children with autism spectrum disorder (ASD). Symptoms can vary significantly among individuals, ranging from mild to severe, and this variation can greatly affect daily functioning and overall well-being. Children with milder symptoms often exhibit better communication skills and social interactions, allowing them to participate more fully in typical childhood activities. In contrast, children with severe symptoms frequently encounter significant challenges in areas such as eating, taking medications, learning, communication, social interaction, and behavior, which can affect all aspects of their daily lives. This may lead to increased dependence on caregivers and fewer opportunities for social engagement, ultimately hindering their growth and development. There is a need to tailor assessments to determine the correlation between parental resilience and the health of their ASD children, which can be beneficial in promoting aspects of the children's quality of life, especially physical and psychological well-being **(Baj et al., 2021).**

Resilience can enhance parents' problem-solving skills and improve their ability to cope actively and positively with the stressors associated with raising children with autism spectrum disorder (ASD). This, in turn, positively impacts the children's health. Parents who possess higher resilience levels tend to experience lower levels of depression and greater self-efficacy in their parenting. This resilience acts as an important buffer against anxiety and depression that may arise from raising children with ASD, ultimately benefiting the physical and psychological well-being of the children **(Mutabbakani & Callinan, 2020).** For parents of children with autism spectrum disorder (ASD) who are facing significant health challenges, resilience can help mitigate the impact of crises and lower negative reactions during emergencies. This resilience leads to positive adaptations in parents, positively affecting their children's health **(Iacob et al., 2020).**

Significance of the study:

Autism spectrum disorders (ASD) affect over 1 in 45 children and typically become noticeable in their behavior before the age of three **(Fong et al., 2021).** A child with ASD may struggle to understand how to interact with others, may not have developed language skills, and might find it difficult to comprehend other people's communication. Additionally, children with ASD tend to experience lower weight gain compared to those without ASD and often face recurrent health problems. They frequently insist on routines and exhibit repetitive behaviors. This early pattern of challenges can be difficult for parents to navigate, so they need to be resilient and more focused **(Cheatham & Fernando, 2022).** In 2018, the Centers for Disease Control and Prevention (CDC) reported that nearly 1 in 59 children had ASD. In 2020, that number increased to 1 in 44 children **(CDC, 2020).**

Operational definitions:

Autism Spectrum Disorder (ASD) autism spectrum disorder is a neurodevelopmental condition that influences a child's communication abilities, social interactions, and behavioral patterns. The term "spectrum" is utilized to reflect the broad range of symptoms and varying degrees of impairment or disability associated with this disorder **(Ebrahim & Alothman, 2021).**

Parental resilience refers to the capacity of a parent to effectively manage stress and maintain functionality when confronted with challenges, adversity, or trauma. It encompasses a range of inner strengths, coping mechanisms, and supportive resources that empower parents to navigate the complexities of parenting successfully, even under challenging circumstances **(APA, 2021; Kotera et al., 2021).**

Aim:

To assess the impact of parental resilience on the physical and psychological health of children with Autism Spectrum Disorder (ASD).

Research Questions:

Does parental resilience affect the physical and psychological health of children with Autism Spectrum Disorder (ASD)?

What is the resilience level of parents of children with ASD?

What is the parents' level of knowledge about ASD in children?

What is the parents' level of reported practice while caring for children with ASD?

What is the relation between parents' resilience, knowledge, and reported practice on physical and psychological health for children with ASD?

Subjects and methods:

Research design:

A descriptive correlational study design was used to accomplish this study.

Setting:

Pediatric inpatient and outpatient neurological clinics affiliated with Sohag University Hospital and the African Institute for Dealing with Children with Special Needs in the Red Sea Governorate.

Sample:

A sample consisted of 46 parents and their children and adolescents with a clinical diagnosis of autism spectrum disorders was used in the current study .

Sample size:

Simple random sampling was selected. The number of study samples was considered to be 46 according to **Dobson's, 1984** formula; Sample size (n) $=Z^2 / \Delta^2$ (P (100 - P)

n= sample size, p prevalence of children who had been diagnosed with ASD was 2.8%, Z a percentile of the standard normal distribution by 95% confidence level = 1.96, and Δ^2 = the width of the confidence interval = 5.0. The calculated sample size is 42 parents. Due to the expected non-participating rate (10%), the final sample size was **46** parents.

Tools for data collection:

Tool I:

Part 1: Sociodemographic data about parents; age, educational level, economic state, attending training courses about ASD, family structure, family history of autism, follow-up related to growth and development for those children with ASD; age, gender, education, severity of ASD, availability of school care, recurrent hospitalization, and comorbidity with ASD.

Part 2: Parents' knowledge of ASD, including Definitions, predisposing factors, warning signs, treatment modalities, and problems experienced by autistic children. This tool includes 15 items. Scoring system: the right answer was scored "one " and the wrong answer was scored "zero". These scores were summed up and converted into a percent score, as less than 60 % is considered an unsatisfactory level of knowledge, and more than 60% is considered satisfactory knowledge **(Ebrahim & Alothman, 2021)**.

Part 3: Parents' reported practices of caring for their children with ASD that were adapted from (**Bassam & Tork, 2019**) and including **developmental skills**; Self-care, social, motor, and attention & concentration skills (20 items). Reported practices relate to overcoming the **problems and challenges of autistic children** regarding: Mealtime, toilet problems, sleep disorders, fear of risks and accidents, and self-harm tantrums, consisting of 58 items. Scoring for parental practices related to ASD: The scores were summed and then converted into percentages, which were categorized into three levels:

- 70% and above is considered a good level of reported practice.
- 50% to less than 70% is considered an average level of reported practice.

- Less than 50% is considered a poor level of reported practice.

Tool II: a Parenting Resilience Elements Questionnaire (PREQ) adopted by **Ghanouni & Eves (2023)** and **Suzuki, Kota, et al. (2015).** This tool is designed to measure parent resilience and has been recognized as a valid and reliable assessment for evaluating a caregiver's level of resilience. It consists of 16 questions, asking parents to rate their agreement with each statement on a 7-point scale. (definitely not true, not true, rather not true, neither, rather true, true, and definitely true). The responses to the questionnaire assess various aspects of resilience, including understanding the child's characteristics, perceived social support, and positive views on parenting. A higher score on this measure indicates lower levels of psychological distress and less overreactive parenting, which means more resilience.
This tool takes 10 minutes to complete.

Tool III:

Part 1: Children's physical health, which includes physical assessment, systemic assessment, gross motor, fine motor, and growth measurement, weight, height, and BMI to assess the growth percentile. It was completed using the standardized WHO procedures adopted by the **CDC in 2010**, as well as guided by **Bolbocean et al., 2022**. The height and weight for age percentiles, in addition to daily life activities and mobility problems (Tool III includes 45 items).

Part 2: Children`s psychological health; it was adapted from **Bassam & Tork (2019)** isolation behavior, loss of self-esteem, typical movements & repetitive talking, verbal communication problems, and resistance to change and ways of learning, moving, or paying attention (it includes 31 items).

The scoring for physical and psychological health status; the items for each physical and psychological health status were summed and converted to percentages, as less than 33.3 % considered poor health, more than 33.3 % to 66.6% was considered faire and finally more than 66.6% was considered good physical and psychological health.

This tool will take 30 minutes to complete a child assessment

Content validity:

The study tools were reviewed by a panel of five experts, consisting of five professors in Pediatric and Psychiatric Nursing, to assess content validity. Modifications to the tools were made based on the panel's judgment regarding the clarity of sentences, appropriateness of content, and the sequence of items, while keeping the core of the minor questions intact.

Reliability:

The assessment of internal consistency was conducted to evaluate the degree to which the items within the tools measure the same underlying concept and correlate with one another. Reliability was analyzed using Cronbach's Alpha coefficient, which produced the following results: an alpha of 0.71 for knowledge, 0.89 for practice, and 0.83 for the physical and psychological assessment tool.

Pilot study:

Ten percent of the study participants, who included five parents and their children with autism spectrum disorder (ASD), took part in a pilot study to evaluate the applicability, clarity, and time commitment of the data collection tools. Based on the findings from the pilot study, the necessary modifications were made. Parents who participated in the pilot study were excluded from the study sample.

Fieldwork:

Data were collected over 5 months from the beginning of August to the end of December 2023. The researchers were available 2 days per week on Saturday and Sunday at pediatric inpatient and outpatient neurological clinics affiliated Sohag University Hospital and the African Institute for Dealing with Children with Special Needs in the Red Sea Governorate. Data collection from parents who agreed to be included in the study and taking growth measurements from their children after explaining the aim of the study.

• Each parent took about 30 – 40 minutes to answer all items of the study tools (interviewing sheet '' knowledge and reported Practice'', resilience sheet), according to their free time throughout the therapy and speech session time of their children, then 15 minutes to assess the child for physical and psychological health.

Ethical considerations:

Approval for the research was obtained from the Scientific Research Ethical Committee at the Faculty of Nursing, Sohag University, by number 105\04\07\2023 before the study commenced. Informed consent was secured from each parent before including their child in the study sample. The nature of the study and its expected outcomes were

clearly and simply explained. It was ensured that all collected data would be treated with confidentiality and anonymity. All participants had the right to withdraw from the study at any time.

Formal permission was obtained by submitting a letter to the director of each of the previously mentioned settings. This letter included a brief explanation of the study's purpose and its expected outcomes to collect the necessary data for the current research.

Statistical design:

The data obtained were organized, computerized, and then, the data were entered into SPSS system files (SPSS package version 29), and then analyzed, tabulated, and represented in tables and graphs as required. Mean, standard deviation, and percentages were calculated, and a suitable statistical test was used to assess the significance of the results.

Results:

Table 1. The data reveals important insights into the parental personal characteristics and their children. It shows that more than one-third (37.0%) of the parents were divorced, while the largest group (52.2%) was married. Regarding family monthly income, a significant portion, 60.9%, reported insufficient income. Regarding maternal education, 21.7% of mothers were illiterate, while nearly two-fifths (39.1%) held a Bachelor's degree, and about two-thirds (63.0%) were employed. In terms of paternal education, 34.8% of fathers had attained a primary school level of education, whereas only 4.3% had completed a Bachelor's or postgraduate degree. This information underscores the diverse educational backgrounds and economic circumstances of the families involved in the study. In the analysis of fathers' occupations, it was found that 21.2% work in the health sector, while 19.6% are employed as teachers or freelance workers. Additionally, 56.5% of the children are male, and 60.9% of them are attending primary school. Moreover, over one-third (37.0%) of the children are older than 14 years of age.

Table 2. The data indicate statistically significant associations between parental resilience and their overall knowledge and practices, as well as their children's physical and psychological health, with p-values of 0.054, 0.028, 0.057, and 0.013, respectively.

Table 3 There are statistically significant associations between parental resilience and their children's weight and daily life activities, as well as their fine motor skills, plus presence of movement problems, with p-values of 0.049, 0.021, 0.046, 0.058 and respectively.

Table 4. Studies were shown strong statistical links between parental resilience and their children's psychological well-being. This connection manifests through loss of self-esteem, typical movement patterns, repetitive speech, communication difficulties, resistance to change, excessive movement, and attention-related issues.

Table 5 Parental resilience was significantly associated with their follow-up regarding children's growth and development, as well as enhancing communication. Factors such as children's previous hospitalizations and parental attendance in courses about ASD were found to have p-values of 0.017, 0.002, 0.016, and 0.047, respectively.

Figure 1 shows that approximately two-thirds (59.0%) of the study sample, consisting of parents, exhibited low resilience, while a smaller percentage (41.0%) demonstrated high resilience.

Figure 2. The results show that 50.0% of parents had both satisfactory and unsatisfactory knowledge about autism regarding their children.

Figure 3. Approximately half (47.8%) of the study sample, which consisted of parents, demonstrated poor practices regarding autism care for their children. In contrast, 28.3% exhibited average practices, while 23.9% showed good practices.

Table (1): frequency distribution of parents and their children according to their characteristics, n=46

	Items	Frequency	Percentage
Family Structure:	Married	24	52.2
	Divorced	17	37.0
	Widow	5	10.9
Monthly Income	Enough	18	39.1
	not Enough	28	60.9
Mother Educational Level	Illiterate	10	21.7
	Read and write	1	2.2
	Secondary school	11	23.9
	Batchelor	18	39.1
	Postgraduate studies	6	13.0
Mother Age	Mean ± SD	36.11 ± 7.1	
Mother Job	Working	29	63.0
	not working	17	37.0
Father Education	Illiterate	5	10.9
	Read and write	8	17.4
	Primary school	16	34.8
	Secondary school	13	28.3
	Batchelor	2	4.3
	Postgraduate	2	4.3
Father age	Mean ± SD	39.7 ± 11.8	
Father Job	Not Work	1	2.2
	Freelance Work	9	19.6
	Employee	7	15.2
	Teacher	9	19.6
	Health Sector	12	26.1
	Retired	4	8.7
	Other	4	8.7
Child Gender	Male	26	56.5
	Female	20	43.5
Child Education	Nursery	10	21.7
	Primary School	28	60.9
	Secondary School	8	17.4
Child Age	3-6 years	10	21.7
	7-10 years	12	26.1
	11-14 years	7	15.2
	more than 14 years	17	37.0
Child Age Mean ± SD	10.9 ± 4.8		
	Total	**46**	**100.0**

Table 2): Correlation between parental resilience and their knowledge, in addition to the practice of autism among their children. (n=46)

Items	Total Resilience				Total		X^2	P-Value
	Low		High					
	No	%	No	%	No	%		
Total Knowledge								
Unsatisfactory	13	48.1	10	52.6	23	50.0	.765	0.054*
Satisfactory	14	51.9	9	47.4	23	50.0		
Total Practice								
Poor	13	48.1	9	47.4	22	47.8	.888	0.028*
Average	7	25.9	6	31.6	13	28.3		
Good	7	25.9	4	21.1	11	23.9		
Children Physical Health								
Poor	13	48.1	10	52.6	23	50.0	1.54	0.057*
Fair	8	29.6	7	36.8	15	32.6		
Good	6	22.2	2	10.5	8	17.4		
Children Psychological Health								
Poor	14	51.9	10	52.6	24	52.2	3.94	0.013*
Fair	11	40.7	4	21.1	15	32.6		
Good	2	7.4	5	26.3	7	15.2		
Total	**27**	**100.0**	**19**	**100.0**	**46**	**100.0**		

Table 3: The relationship between parental resilience and the physical health of their children with autism. (n=46)

Children Physical Health	Total Resilience				Total		X^2	P-Value
	Low		High					
	No	%	No	%	No	%		
Weight for Age Percentile								
Underweight	11	40.7	11	57.9	22	47.8	1.392	0.049*
Overweight	9	33.3	4	21.1	13	28.3		
Normal Weight	7	25.9	4	21.1	11	23.9		
Height for Age Percentile								
Tall	1	3.7	2	10.5	3	6.5	3.417	0.418
Sever stunting	4	14.8	1	5.3	5	10.9		
Normal	12	44.4	12	63.2	24	52.2		
Stunting	10	37.0	4	21.1	14	30.4		
Daily Life Activities								
Basic Activities of Daily Living (BADLs).	17	63.0	14	73.7	31	67.4	.868	0.021*
Instrumental Activities of Daily Living (IADLs)	10	37.0	5	26.3	15	32.60		
Gross Motor								
Normal	22	81.5	15	78.9	37	80.4	.046	0.831
Abnormal	5	18.5	4	21.1	9	19.6		
Fine Motor								
Normal	11	40.7	13	68.4	24	52.2	3.424	0.046*
Abnormal	16	59.3	6	31.6	22	47.8		
Moving Problems							2.584	0.058*
No	12	44.4	13	68.4	25	54.3		
Yes	15	55.6	6	31.6	21	45.7		
Total	**27**	**100.0**	**19**	**100.0**	**46**	**100.0**		

Table 4: The relationship between parental resilience and the psychological health of their children with autism.

Children Psychological Health	Total Resilience				Total		X^2	P-Value
	Low		High					
	No	%	No	%	No	%		
Presence of Isolation Behavior								
No	13	48.1	7	36.8	20	43.5	.580	.441
Yes	14	51.9	12	63.2	26	56.5		
Loss of Self-esteem								
No	11	40.7	8	42.1	19	41.3	.926	0.009**
Yes	16	59.3	11	57.9	27	58.7		
Typical Movement and Repetitive Talking								
No	6	22.2	7	36.8	13	28.3	1.176	0.013*
Yes	21	77.8	12	63.2	33	71.7		
Verbal Communication Problems								
No	10	37.0	8	42.1	18	39.1	.729	0.051*
Yes	17	63.0	11	57.9	28	60.9		
Social Interaction Problems								
No	11	40.7	9	47.4	20	43.5	.199	0.655
Yes	16	59.3	10	52.6	26	56.5		
Resistance to Change								
No	10	37.0	7	36.8	17	37.0	.989	0.002**
Yes	17	63.0	12	63.2	29	63.0		
Learning Problems							0.425	0.515
No	14	51.9	8	42.1	22	47.8		
Yes	13	48.1	11	57.9	24	52.2		
Attention Problems								
No	10	37.0	11	57.9	21	45.7	1.955	0.034*
Yes	17	63.0	8	42.1	25	54.3		
Total	**27**	**100.0**	**19**	**100.0**	**46**	**100.0**		

Table (5) The relationship between parental resilience and the follow-up care, hospitalization, ASD comorbidities, and participation in courses about ASD of their children with autism.

Items	Total Resilience				Total		X^2	P-Value
	Low		High					
	No	%	No	%	No	%		
Parental Follow-Up Growth and Development								
No	20	74.1	13	68.4	33	71.7	0.765	0.017*
Yes	7	25.9	6	31.6	13	28.3		
Parental Follow-Up for Enhancing Communication								
No	18	66.7	8	42.1	26	56.5	2.738	0.002**
Yes	9	33.3	11	57.9	20	43.5		
Recurrent Hospitalization								
No	9	33.3	6	31.6	15	32.6	0.901	0.016*
Yes	18	66.7	13	68.4	31	67.4		
ASD Comorbidity								
No	15	55.6	11	57.9	26	56.5	0.025	0.875
Yes	12	44.4	8	42.1	20	43.5		
Parental Attending ASD courses.								
No	21	77.8	10	52.6	31	67.4	3.209	0.047*
Yes	6	22.2	9	47.4	15	32.6		
Total	**27**	**100.0**	**19**	**100.0**	**46**	**100.0**		

Figure 1: Distribution of the parents of children with Autism according to their resilience, n=46

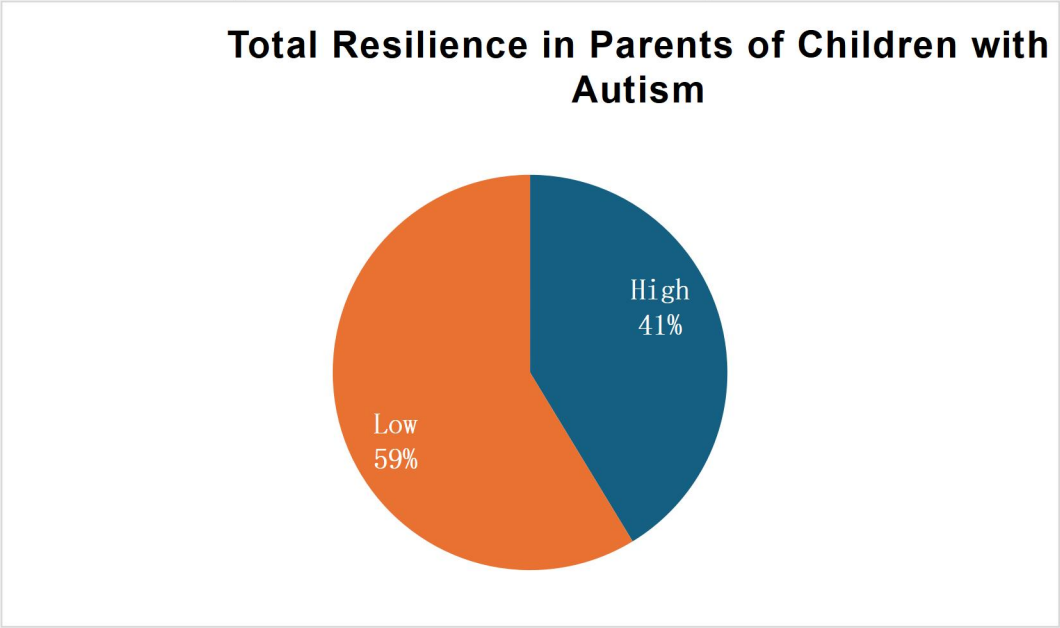


Figure 2: Distribution of the parents of children with Autism according to their knowledge about ASD, n=46

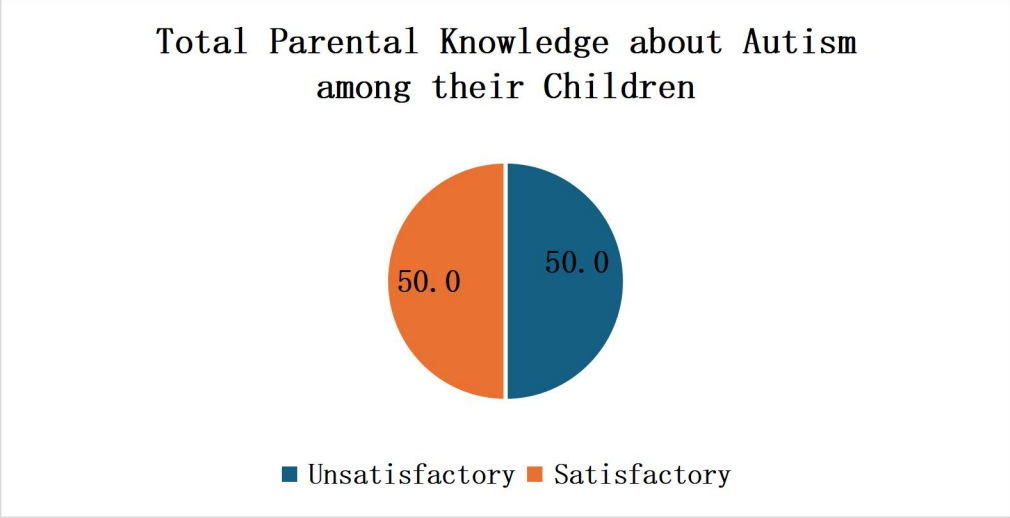
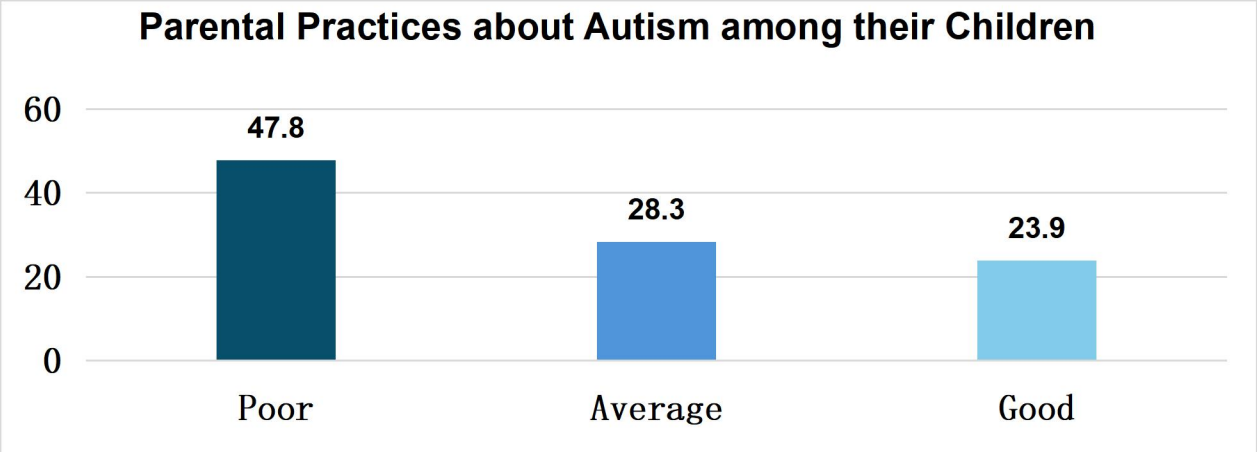


Figure 3: Distribution of the parents of children with Autism according to their practices about ASD, n=46



Discussion:

Raising a child with developmental disability, especially Autism, can generate positive outcomes for parents and all family, including improved family closeness, children's growth and development, and importantly, joy, but the road to get there is often very challenging. Description of parental resilience show that the most common ways for children with ASD to grow normally and communicate well are: allows to be cuddled (eg; have satisfied knowledge and appropriate practices related to ASD, follow up for enhancing growth and communication), train the children to recognizing familiar people (family members, teachers, relatives,…), and to letting know when he needs help or wants an item **(Ibrahimagic et al., 2022 and Mutabbakani & Callinan 2020).** Recognizing the relationship between a child's characteristics associated with autism spectrum disorder (ASD) and the resilience of their parents is crucial for developing effective support systems that foster the well-being of both the child and the family unit. By addressing the specific needs of parents and enhancing their resilience, we can improve outcomes for children with ASD. This approach positively impacts their physical and psychological health and creates a more nurturing environment for all family members. Parents must recognize and understand the unique characteristics of autism spectrum disorder (ASD) to provide the appropriate support and interventions that meet the specific needs of children with ASD. By promoting acceptance, understanding, continuous support, and inclusion, parents can help these children thrive and reach their full potential while developing normally **(Liu et al., 2022).**

Concerning parental resilience, the current study revealed that about two-thirds of the parents in the actual study had low resilience. These findings were in the same line with **Mumford (2023) and Tajalli et al. (2022)**, whose studies were conducted in Chicago and Egypt, who discovered that only one-third of parents of children with ASD showed moderate to high resilience, whereas two-thirds had low resilience. This finding might be explained by parents of autistic children face many obstacles, these obstacles include communication issues, handling tough behaviors, teaching fundamental life skills, protecting their child from harm, locating suitable treatment, and overcoming the cost of paying for services. During parents' interviews, they report higher complaints, and their resilience is reduced as a result of overcoming the difficulties that come with raising a child with ASD and the changing of circumstances.

The present study found that parental resilience is significantly correlated with both their overall knowledge and practices regarding ASD, as half of the parents had poor knowledge and practices. These results were consistent with **Ayubi et al. (2023) & Mohamed et al. (2020)** in their study in Egypt, Dakahlia and Port Said Governorates, as they revealed that less than two-thirds of the studied parents have poor knowledge scores about ASD. Moreover, the majority of them use the internet and the media as their sources of knowledge about autism. From the researcher's perspective, the findings suggest that many parents today have access to social

media and the internet, which serve as convenient sources of information. This information is available through various platforms such as mobile devices, computers, and television. However, it is important to note that a significant portion of this content lacks a scientific basis and is primarily derived from websites or articles authored by the general public. This reliance on unverified sources can contribute to misunderstandings and insufficient knowledge and lead to inaccurate practices regarding autism. Also, according to the current study, a significant number of parents were illiterate and could only read and write. This may affect their interpretation of information and practices related to autism.

The existing literature on the relationship between parental resilience and the physical growth of children with autism is currently limited. Our study indicates a positive correlation between parental resilience and the physical development of autistic children. Additionally, parental resilience and adjustment emerged as significant predictors of children's overall physical health. Furthermore, our findings reveal a positive correlation between children's psychological health and the resilience of their parents.

The findings of the current study indicate that parental resilience may significantly influence children's physical health. Specifically, the results demonstrate that a higher proportion of children exhibiting poor physical health came from families where parents had low resilience levels. A statistical correlation was identified between parental resilience and various aspects of children's physical growth, including weight, fine motor skills, mobility challenges, and daily life activities. Notably, abnormal measurements were predominantly observed among children whose parents demonstrated lower levels of resilience. These findings were compatible with **Salleh et al., (2022)** they illustrated in the study that performed in South-East Asia, particularly in Malaysia that marital adjustment was lower in mothers of a child with ASD than the mothers with a typically developing child, and marital resilience affected growth and developmental indicators and was associated with raising autistic children and the current findings were congruent with the results of **Ip et al., (2022)** as they mentioned in their study that conducted on British Columbia, the physical well-being domains affecting daily living skills and independence, often impaired in children with ASD. Understanding the role of parental resilience is vital from a researcher`s standpoint. While resilience generally serves as a protective factor, mothers need to strike a balance between resilience and responsiveness to their children's physical and psychological needs. This equilibrium is critical for ensuring that children receive the appropriate support necessary for their optimal growth and development. Furthermore, a low level of resilience among parents can have detrimental effects on children's overall growth and development.

The current study explored the relationship between children's psychological health and their parents' resilience. It found that there was a significant correlation between parental resilience and children’s psychological well-being. The majority of children fell into the categories of poor and fair psychological health. Most of these children exhibited behaviors such as isolation, low self-esteem, repetitive movements and talking, communication issues, and attention problems. Additionally, it was noted that these children had parents with low levels of resilience. These findings were in agreement with the study of **Kotera et al. (2021)** and **Sanders et al. (2022)**. Their studies examine the parenting resilience of mothers with children who have Autism Spectrum Disorder (ASD) in both the United Kingdom and Australia. It highlights that parenting resilience is crucial for effectively managing the emotional and behavioral challenges associated with ASD. This resilience positively impacts the psychological well-being of the children and has been shown to reduce parental overreactions. As a result, it leads to changes in parenting practices, such as increased consistency, improved parent-child relationships, and decreased stress levels.

Regarding communication and social interaction, the results of the present study indicated that the autistic children had major issues in their communication and social interaction problems as reported by their parents, as well as the parents’ resilience affecting the children social interaction and communication as highest number of children with social interaction and communication problems were to parents had low resilience level. These findings were in the same

line with **Ibrahimagic et al., (2022) and Geurts & Embrechts (2020)**. A significant number of children diagnosed with autism spectrum disorder (ASD) demonstrate challenges in functional communication skills. In contrast, only a small minority exhibit conventional levels of communication proficiency. This outcome can be explained by the characteristics of autism, a developmental disorder that encompasses a broad spectrum of symptoms, as children with autism may experience a range of challenges, from mild difficulties to significant impairments in social skills, communication, and behavioral regulation. These issues can impact a child's ability to function independently and engage with others effectively. From the perspective of researchers, the human and time resources of parents who have children diagnosed with Autism Spectrum Disorder (ASD) have become the most significant assets that they can leverage effectively. The parents faced challenges due to a lack of support, both human and time-related, in most schools and kindergartens for their children. Many parents, especially mothers, chose to leave their original jobs to become full-time teachers for their children. Some even started organizations or kindergartens to address their children's needs. Despite their efforts, their resilience was low, and many expressed frustrations with the obstacles they encountered while raising their children. This situation negatively impacted their children's growth and development.

In relation to parental follow-up on children's growth and development, as well as enhancing communication skills, the results of the present study revealed that most of the studied parents did not track their children's growth and development. Furthermore, nearly all parents who did not engage in this follow-up exhibited low levels of resilience. From this perspective, over two-thirds of the parents with low resilience did not make efforts to support their children in improving their communication skills. The current study results revealed that the highest percentage of parents with low resilience, whose children had recurrent hospitalization higher than the presence of comorbidity. These results were not on the same line as **Köse et al., (2023),** who showed in their study that conducted in Turkey revealed that a significant proportion of children diagnosed with autism spectrum disorder (ASD) experience higher rates of comorbid conditions compared to rates of hospitalization among other children with ASD. Additionally, the research highlighted that parents of children with ASD often face greater levels of stress than caregivers of typically developing children, particularly among those whose children have been hospitalized and present with comorbidities. From the researcher's view, the findings indicate that many parents with low resilience levels did not participate in training courses on autism. As a result, they struggled to manage both the physical and psychological needs of their autistic children. This lack of support may have contributed to worsening health issues, leading to frequent hospitalizations and a decline in comorbid conditions.

Conclusion:

The results of this study indicate that parental resilience affects both the physical and psychological health of children with autism spectrum disorder (ASD). Specifically, it was observed that a significant number of parents with low levels of resilience had children who exhibited poor physical and psychological health. Additionally, parental resilience was strongly linked to their knowledge and reported practices regarding autism.

Recommendations:

In light of the findings of the current study, the following recommendations are suggested:

- Preparing for implementing continuous health education and counseling initiatives aimed at supporting parents in the effective care of their autistic children. These programs are designed to enhance the growth and development of these children, ensuring that families receive the resources and guidance they need.
- Raise public awareness through mass and social media regarding the importance of early diagnosis and intervention for autism. This proactive approach can significantly enhance the growth and development of children with autism and utilize different strategies for developing parental resilience.
- Further research is necessary using a larger probability sample to effectively generalize the results, to better understand how

families' resilience is both challenged and enhanced while raising autistic children.

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