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Original Article

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Factors predicting caregiver burden of children with autism spectrum disorder: a cross-sectional study

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ABSTRACT

Introduction: Caregivers of children with Autism Spectrum Disorder (ASD) face considerable psychological and physical burdens owing to the demands of caregiving. Identifying key predictors of caregiver burden, such as caregiver stress, quality of life, and child behavioral characteristics, is crucial for developing effective support interventions. This study aimed to examine factors that predict caregiver burden among those caring for children with ASD.

Methods: This cross-sectional study included 91 caregivers selected by simple random sampling from a list of children with ASD who attended the Child Development Clinic (CDC). The data were collected using an instrument that included the Zarit Burden Interview (ZBI), Suanprung Stress Test-20 (SPST-20), World Health Organization Quality of Life Brief-Thai (WHOQOL-BREF-THAI), and Strengths and Difficulties Questionnaire (SDQ). Data were analyzed using Pearson's correlation and multiple logistic regression.

Results: Caregiver stress demonstrated the strongest positive association with caregiver burden ($\beta = 0.431$, $p < 0.001$), indicating that higher stress levels significantly increased the burden. Child behavioral difficulties also significantly predicted a greater burden ($\beta = 0.356$, $p < 0.001$). In contrast, caregivers' quality of life ($\beta = -0.175$, $p < 0.01$) and child strength ($\beta = -0.192$, $p < 0.01$).

Conclusions: Caregiver stress is the primary predictor of burden among those caring for children with ASD. Child behavioral difficulties further increase burden, while caregiver quality of life and child strength act as protective factors. These findings support interventions that reduce caregiver stress, address child behavioral challenges, and enhance caregiver well-being, thereby alleviating caregiver burden.

Keywords: autism spectrum disorder, caregiver burden, caregiver stress, child difficulties, and child strengths

Introduction

The prevalence of Autism Spectrum Disorder (ASD) has garnered global attention and represents a significant global health burden (Issac *et al.*, 2025). Some reports estimate a rate of 3–6 per 1,000 children, whereas others suggest a much higher incidence (Kassim and Mohamed, 2019). A meta-analysis in Southeast Asia reported the prevalence of ASD to be approximately 6 per 1,000 children, consistent with estimates in Thailand (Shrestha *et al.*, 2024). Children with ASD exhibit impairments in communication, motor skills, and adaptive behaviors (Song *et al.*, 2024). Caregiving for a child with ASD presents unique challenges that often contribute to significant caregiver burden. ASD is a neurodevelopmental disorder characterized by difficulties in social communication and restricted and repetitive behaviors and often necessitates ongoing

parental and familial support due to its chronic and heterogeneous nature (Rutten *et al.*, 2024). The burden of caregiving is influenced by factors such as the child's behavioral and emotional difficulties, caregivers' stress, and their overall quality of life. While previous research has investigated these components individually, there remains a gap in the literature regarding the interaction of these variables and their collective impact on caregiver burden (Marsack-Topolewski *et al.*, 2025).

The caregiver burden among families of children with ASD reflects substantial emotional, psychological, and financial strain. Evidence from diverse contexts consistently demonstrates that a considerable proportion of caregivers experience moderate to severe levels of burden, often accompanied by high stress, depression, and even suicidal ideation (Solaiman *et al.*, 2022, Anter Mohamed and Sayed Ali Abdelrahem, 2024, Azubuike *et al.*, 2024a, Azubuike *et al.*, 2024b). Child-related factors, particularly behavioral and communication difficulties such as aggression, hyperactivity, and emotional dysregulation, have been shown to significantly intensify caregiving demands and contribute to a higher caregiver burden (Patel *et al.*, 2022, Marsack-Topolewski *et al.*, 2025). In addition, contextual factors, including limited social support and financial constraints, further exacerbate caregiver stress, whereas greater economic resources may buffer caregiving strain(Marsack-Topolewski *et al.*, 2025). Beyond children's difficulties, caregiver well-being plays a crucial role in shaping caregiving experiences. Chronic stress related to the unpredictable and long-term nature of ASD caregiving has been linked to poorer mental and physical health outcomes among caregivers (Azubuike *et al.*, 2024a). Conversely, QoL, social support, resilience, and adaptive coping strategies have been identified as important protective factors that can mitigate caregiver burden (Lan *et al.*, 2025). However, much of the existing literature has examined these factors in isolation or within specific populations, with limited integration of caregiver stress, quality of life, and child strengths and difficulties, within a single explanatory framework. Despite growing evidence on caregiver burden, there remains a lack of integrated studies that simultaneously examine caregiver stress, quality of life, and behavioral characteristics as predictors of caregiver burden, particularly in caregivers of children with ASD. Addressing this gap is essential for developing comprehensive evidence-based interventions tailored to the needs of caregivers. Therefore, this study aimed to analyze the factors that predict caregiver burden among caregivers of children with ASD, focusing on caregiver stress, quality of life, and child behavioral characteristics.

This study aimed to analyze the factors predicting caregiver burden among caregivers of children with ASD and fill this gap by exploring the combined influence of child-related factors, caregiver stress, and quality of life on overall caregiver burden. By identifying key predictors, this study will help develop targeted interventions to support caregivers and improve their well-being. Obtain empirical information about the burden caregivers place on children with ASD. This information will be used to develop strategies to help caregivers prevent long-term problems that affect their development, children's health, and quality of life, both now and in the future. The findings also provide valuable insights for healthcare providers, policymakers, and support organizations working to enhance the lives of children with ASD and their caregivers.

Materials and Methods

Design

A cross-sectional design was used to study the factors that predicted the burden on caregivers of children with ASD.

Participants

The participants were caregivers of autistic children aged 3–12 years who received services at the CDC located in Mahasarakham Hospital, Kalasin Hospital, and Roi Et Hospital. These provincial hospitals in Northeast Thailand operate under the Ministry of Public Health, Health Region 7. The child was diagnosed ASD. Caregivers provide continuous childcare for at least 6 hours per day for at least 6 months.

Sample and Sampling technique

This study employed simple random sampling from a list of odd-numbered children and their caregivers who were diagnosed with ASD and attended the CDC. The researcher approached the participants, explained the study, and provided information on the protection of their rights. The inclusion criteria were being the primary caregiver of a child with ASD aged 3-12, diagnosed according to ICD-10, with disease codes F84.0 and F84.1, caregivers who can communicate eloquently in Thai, and Caregivers who are ready to provide information without being unwell or having emergency illnesses such as fever and diarrhea. The exclusion criteria were caregivers with visual or hearing impairments, caregivers who were uncomfortable or ill during participation, and children in the care of caregivers with other neurological disorders, such as cerebral palsy or Down syndrome.

The sample calculation

The sample calculation was based on opening the table for the test power analysis. The alpha confidence value was significant at 0.05, the ES was medium, the test was a multiple regression/correlation analysis, the test power was 0.80, and the sample size was 76 (Cohen, 1992). Increasing the sample size by 20% can significantly improve the statistical sensitivity and reliability of

findings (Grove *et al.*, 2012). The total sample size was 91 across Mahasarakham Hospital, Kalasin Hospital, and Roi Et Hospital (31, 30, and 30 per hospital, respectively).

Study Instrument

Data collection used five research tools, as follows:

A demographic questionnaire was used to collect information about the child's caregiver. This includes demographic information about the children with ASD.

The Zarit Burden Interview (ZBI) developed by Zarit was used to assess burden. This experience has been documented by caregivers (Zarit and Zarit, 1990). The instrument uses a 22-item Likert scale (0-4 points). The total score ranges from 0 to 88; the burden is typically categorized as follows: 0–20 = no burden, 21-40 = mild to moderate burden, 41-60 = moderate to severe burden, and 61-88 = severe burden. ZBI focuses on four major areas: emotional stress, physical strain, social impact, and financial burden. ZBI demonstrated strong internal consistency, with a Cronbach's alpha coefficient of 0.96. In addition, it exhibited excellent sensitivity 0.90 and specificity (0.88). In the current study, the Cronbach's alpha coefficient was 0.88.

The Suanprung Stress Test-20 (SPST-20), developed by Mahatnirankul (Mahatnirankul S, 1997). It was used to assess the general public's stress, which suits the Thai people. The instrument uses a Likert scale (0-4 points), with a total score ranging from 0 to 80, and a SPST-20 score, with higher scores indicating higher stress levels. The total score classifies stress into different severity levels: 0-23 indicates normal stress, 24-41 indicates mild stress, 42-61 indicates moderate stress; and ≥ 62, severe stress. This classification is highly reliable and valid. SPST-20 demonstrates strong internal consistency with a Cronbach's alpha coefficient of 0.70. In the current study, the Cronbach's alpha coefficient was 0.93.

The World Health Organization Quality of Life Brief-Thai (WHOQOL-BREF-THAI) is a standardized assessment tool for measuring quality of life. A standardized instrument developed by the World Health Organization (WHO) is used to assess an individual's quality of life. It is available in English and Thai and is a culturally adapted version of the WHOQOL-BREF. (Mahatnirundkul, 1998). The WHOQOL-BREF-THAI consists of 26 items. The WHOQOL-BREF-THAI divides quality of life into three levels: poor, medium, and good. It evaluates four significant domains of quality of life: physical health, psychological well-being, social relationships, and environmental factors. WHOQOL-BREF-THAI demonstrates strong internal consistency with a Cronbach's alpha coefficient of 0.84 and a specificity of 0.65. In the current study, Cronbach's alpha was 0.92

Table 1. The general information of caregivers and children with ASD (n=91)

General information	amount	percent	Mean	S.D.	Range
Caregivers					
Age			39.77	11.20	19-68 yrs.
Time of care for children (years)			4.35	1.57	1-12 yrs.
Gender					
male	18	19.80			
female	73	80.20			
Relationship with children					
Father	8	8.80			
Mother	54	60.40			
Grandfather	6	6.60			
Grandmother	20	24.50			
Education					
Not studied	1	1.10			
Primary school	20	22.00			
Secondary school	42	46.20			
diploma	4	4.40			
Bachelor's Degree	23	25.30			
Doctorate	1	1.10			
Marital status					
Marriage	58	63.70			
Divorce	25	27.50			
Witdow	8	8.80			
Health conditions					
There are no underlying diseases.	77	84.64			
Have underlying diseases.	14	15.40			
Children with ASD					
Age			4.98	1.75	3-12 yrs.
Duration since diagnosis (years)			1.44	1.24	0.5-8 yrs.
Gender					
Male	76	83.50			
Female	15	16.50			
Diagnosis					
Childhood autism	78	85.70			
Atypical Autism	13	14.30			
Health conditions					
There is no underlying disease	87	95.60			
Have underlying diseases.	4	4.40			

The Strengths and Difficulties Questionnaire (SDQ) was used. The caregiver used it to assess the children's emotional and behavioral difficulties and strengths. Developed by Robert Goodman, it is available in English and Thai (Wongpiromsarn et al., 2011). The SDQ comprises 25 items across five subscales, each containing both negative and positive behaviors. Negative behaviors or difficulties scored include emotional symptoms, conduct problems, hyperactivity/inattention, and peer relationship problems. Positive behaviors or strengths scored include prosocial behavior. SDQ demonstrates strong internal consistency (Cronbach's alpha = 0.73), sensitivity of 0.63, and specificity of 0.94. In the current study, Cronbach's alpha coefficient was 0.64.

Data collection

The details of the data collection process are outlined below. Wrote a letter requesting cooperation in collecting information from the nursing faculty Mahasarakham University to the directors of the three hospitals, Mahasarakham Hospital, Kalasin Hospital, and Roi Et Hospital, requested permission to collect data for research at the CDC, data collection location in the developmental stimulation room, and a private subroom. The CDC's service day is Friday, from 09.00 a.m. to 12.00 p.m. During the research process, caregivers and children must be biographed, screened, and evaluated by doctors and healthcare professionals at developmental clinics before meeting the researchers. This step does not affect the treatment and monitoring of those who come to the hospital; the researchers sorted the list and selected only odd-numbered entries and examined the qualifications of the samples; the researcher contacted the respondents, namely, caregivers of children with ASD, to ask for permission to collect research data, clarify the research objectives, and provide information on the protection of the right of the sample to participate in or refuse to participate in the study; and a certificate of research ethics from Mahasarakham University with a questionnaire for consideration by co-researchers. Please allow me to answer this questionnaire. After completing the written consent form, you would like to participate in the study. The questionnaire took approximately 45 min. While collecting information, the child's caregiver could stop answering the questionnaire at any time. The questionnaire was used to verify data completeness and prepare for data analysis.

Data Analysis

Descriptive statistics were used to analyze the relationships among the factors by employing Pearson's correlation and multiple logistic regression. Descriptive statistics were used to summarize participant characteristics and study variables. The normality of the continuous variables was assessed using skewness and kurtosis values and visual inspection of histograms, with all variables meeting the assumptions for parametric analysis (within ±2). Pearson's correlation coefficient was used to examine the relationships among caregiver stress, quality of life, children's difficulties and strengths, and caregiver burden. Multiple linear regression analysis was then conducted to identify predictors of caregiver burden. All statistical analyses were performed using SPSS version 26, with the significance set at $p < 0.05$.

Ethical consideration

This study was reviewed by the Research Ethics Committee of Mahasarakham University (Ref. No. No. 449-353/2024), and the research ethics committees of the three study hospitals: Mahasarakham Hospital Research Ethics Committee (Ref. No. MSKH_REC 67-02-069), and Kalasin Hospital Research Ethics Committee (Ref. No. 073/2024), and Roi-Et Hospital Research Ethics Committee (Ref. No. RE138/2024).

Results

The research results included general information on caregivers of children with ASD and factors predicting the burden on caregivers of children with ASD.

General information on caregivers of children with ASD

The study included caregivers of 91 children with ASD. The average age of the caregiver was 39.77 years (SD = 11.20), ranging from 19 to 68 years. The average number of years of care for children was 4.35 years (SD =1.57), ranging from 1 to 12 years. Most of the caregivers were female (80.20%), mothers (60.40%), had secondary education (46.20%), and were married (63.70%). Children with ASD were aged 3-12 years, with an average age of 4.98 years (SD =1.75). The duration since diagnosis was between 6 months and 8 years, with an average age of 1.44 years (SD = 1.24), childhood autism (85.70%), and no underlying diseases (96.60%), as shown in Table 1.

Caregiver burden, Quality of life, Stress, Difficulties, and Strength score

The mean total caregiver burden score was 29.28 (SD = 14.65) out of 88. Nearly half (47.30%) of caregivers experienced a mild-to-moderate burden, and 22.40% experienced a moderate-to-severe burden. Only approximately one-fourth (25.30%) reported no burden. The total quality of life score was 6.64 (SD = 1.03) out of 10. Subscales for overall good-to-moderate quality of life, physical health, and environmental factors were scored. More than half (56.50%) of the caregivers had a medium quality of life and nearly half (43.50%) had a good quality of life. None of the caregivers reported poor quality of life. The mean total stress score was 44.92 (SD = 14.26) out of 100 points. Almost half (44.00%) of caregivers reported moderate stress, while 50.60 % reported high and very high stress levels. The mean total difficulties score = 17.34 (SD = 4.56) out of 40 points, and the mean total strengths

score = 4.05 (SD = 2.412) out of 10 points, as shown in Table 2-3.

Table 2. The caregiver burden, quality of life, stress, difficulties score, and strength score of caregivers and children with ASD (n=91)

Variable	Mean	S.D.	Actual range	Possible range
Caregiver				
Burden				
Emotional stress	9.81	6.91	0-34	0-36
Physical strain	3.43	3.29	0-16	0-16
Social Impact	9.95	4.60	0-19	0-20
Financial burden	6.27	3.08	0-16	0-16
Total caregiver burden score	29.28	14.65	0-79	0-88
Quality of Life				
Physical Health	24.93	3.27	17-32	7-35
Psychological Well-being	21.97	3.34	13-58	6-30
Social Relationships	10.70	2.49	5-15	3-15
Environmental Factors	28.07	4.13	19-40	8-40
Total quality of life score	6.64	1.03	4-10	2-10
Stress				
Total stress score	44.92	14.26	20-80	20-100
Children with ASD				
Strengths and Difficulties score.				
Emotional Symptoms	3.11	1.75	0-8	0-10
Conduct Problems	2.78	1.58	0-8	0-10
Hyperactivity/Inattention	6.27	2.00	2-10	0-10
Peer Relationship Problems	5.05	1.37	0-10	0-10
Prosocial behavior	4.05	2.42	0-10	0-10
Total difficulties score	17.34	4.56	7-27	0-40
Total strengths score	4.05	2.42	0-10	0-10

Table 3. Caregiver burden, quality of life, stress of caregivers, children with ASD (n=91)

Variable	amount	percent
Burden		
No burden	23	25.30
Mild to moderate burden	43	47.30
Moderate to severe burden	17	18.70
Severe burden	2	2.20
Quality of life		
Poor quality of life	0	0
Medium quality of life	48	56.50
Good quality of life	37	43.50
Stress		
Slight level of stress	5	5.50
Moderate stress	40	44.00
High levels of stress	33	36.30
Very high levels of stress	13	14.30

Correlation coefficient between stress, quality of life, difficulties, and strength scores of children and caregiver burden in children with ASD

The Correlation coefficient between stress, quality of life, and difficulties and strength score of children and caregiver burden in children with ASD was found to be significantly correlated with the burden of care for children with ASD namely, the translators with a positive correlation with the burden of care, caregiver stress a positive correlation with the burden of care ($r = 0.674$, $p < 0.001$), and the child's difficulties score was positively correlated with the burden of care ($r = 0.590$, $p < 0.001$), and the variables with a negative correlation with the

Table 4. Correlation coefficient between stress, quality of life, difficulties, and strength score of children and caregiver burden in children with ASD (n=91)

Variable	Burden	
	Correlation coefficient	p-value
Caregiver		
Quality of life	-0.433**	0.000
Stress	0.674**	0.000
Children with ASD		
Difficulties score	0.590**	0.000
Strength score	-0.339*	0.002

Table 5. Statistical analysis of multiple regression factors predicting the burden on caregivers of children with ASD

Variable	B	SE	Beta	t	p	Zero-order	Tolerance	VIF
Constant	10.051	11.654		0.862	0.392			
Caregiver								
Stress	0.431	0.086	0.431	5.016	0.000	0.675	0.764	1.310
Quality of life	-2.686	1.251	-0.175	-2.146	0.036	-0.449	0.851	1.175
Children with ASD								
Difficulties score	1.255	0.302	0.356	4.151	0.000	0.616	0.765	1.308
Strength score	-1.252	0.502	-0.192	-2.496	0.015	-0.449	0.955	1.073

caregiver's quality of life were negatively correlated with the burden of care (r = -0.433, p < 0.001), and the child's strength score was negatively correlated with the burden of caring for children with ASD (r = 0-.339, p < 0.005). as shown in Table 4.

Factors predicting the burden on caregivers of children with ASD

Standardized regression analysis showed that caregiver stress (β = 0.431) was the strongest predictor of caregiver burden, followed by children's difficulties (β = 0.356). Caregivers' quality of life (β = -0.175) and children's strengths (β = -0.192) were inversely associated with caregiver burden, indicating protective effects. These findings highlight the combined influence of risk and protective factors on caregiver burden (Table 5).

Discussions

Correlation coefficient between stress, quality of life, difficulties, and strength scores of children and caring burden in children with ASD

The findings showed that caregiver burden in families of children with ASD results from both caregiver and child factors. Higher caregiver stress and child behavioral difficulties are linked to increased caregiving demands, whereas caregiver quality of life and children's strengths serve as protective factors. These results align with previous research showing that ongoing emotional and physical stress intensifies perceived burden among caregivers of children with ASD (Bozkurt *et al.*, 2019). Managing disruptive behaviors, emotional dysregulation, and social challenges in children with ASD increases daily caregiving demands and parenting stress, further contributing to the caregiver burden (Huang *et al.*, 2014). Conversely, caregivers' QoL is a key protective factor. Studies have found that better physical, psychological, and social well-being among caregivers is associated with a lower perceived burden and improved adaptation (Warreman, 2023, Ridzkina, 2024). Social support, effective coping strategies, and positive mental health help mitigate the negative effects of caregiving stress, enabling caregivers to manage their responsibilities more sustainably. Similarly, children's strengths, such as prosocial behaviors, adaptive skills, and functional communication, can ease caregiver burden by improving interactions and enhancing caregivers' sense of competence and optimism (Hastie and Stephens, 2019, Chua *et al.*, 2023b)

In the Thai context, these relationships align with local evidence identifying caregiver stress and symptom severity as key challenges for families of children with ASD. Studies in Thai clinical settings have reported high caregiver stress and strong links between caregiver well-being, child clinical factors, and caregiving outcomes (Chaisena *et al.*, 2025, Rueangmethasak *et al.*, 2025). Thai nursing research also highlights that parental perceptions of child behavioral difficulties and stress are closely tied to broader parenting outcomes, such as self-efficacy, underscoring the need for integrated family focused care (Jiratheerarat *et al.*, 2025). These findings suggest that effective interventions in Thai healthcare should go beyond child behavior management to include systematic screening for caregiver stress and strategies to improve caregivers' quality of life. Incorporating family centered and strengths-based approaches into routine clinical services may provide a sustainable way to reduce caregiver burden and support long-term family well-being.

Factors predicting the caregiver burden of children with ASD

This study identified caregiver stress, child behavioral difficulties, and children's strengths as the primary factors influencing caregiver burden in families of children with ASD. Caregiver stress is a significant contributor to perceived burden, reflecting the ongoing psychological and physical demands of long-term caregiving (Costa, Steffgen and Ferring, 2017). Prolonged stress is linked to poorer caregiver health and reduced ability to manage daily responsibilities, especially in the families of children with ASD. Child-related challenges, such as disruptive behaviors and impaired social functioning, further increase caregiving demands and limit caregivers' participation in work, social, and self-care activities. These findings align with previous research showing that managing behavioral problems, financial strain, and time-intensive care increase caregiver strain (Chua *et al.*, 2023a, Marsack-Topolewski *et al.*, 2025). Caregiver stress and child difficulties are interconnected risk factors that intensify the caregiving experience. In contrast, caregivers' quality of life and children's strengths served as protective factors. Caregivers with higher physical, psychological, and social well-being show greater resilience and report lower levels of burden (Ridzkina, 2024). Similarly, children's strengths, such as prosocial behaviors, adaptive communication, emotional regulation, and cooperation in daily routines, can reduce caregiving demands by improving child–caregiver interactions and enhancing caregivers' sense of competence and optimism (Bozkurt *et al.*, 2019). These strengths can be developed through structured, strength-based, and family centered interventions. Evidence from parent-mediated and caregiver training programs shows that reinforcing positive behaviors, establishing consistent routines, and promoting supportive parent–child interactions can improve children's adaptive functioning and reduce caregiver stress (Bearss *et al.*, 2015, Pelayo, 2025). Integrating strength-based assessments into routine care can help shift the focus from deficits to capacities, allowing caregivers to build on positive child behaviors. Practical strategies such as parent coaching, behavioral skills training, and family centered support may reduce

the cumulative burden of long-term caregiving. These findings suggest that effective interventions should address both caregiver stress and child behavioral difficulties, while promoting caregiver well-being and children's adaptive strengths. This dual focus may lead to more sustainable improvements in caregivers' outcomes and family functioning. Future research should examine contextual factors, such as socioeconomic conditions and access to services, and evaluate the effectiveness of strength-based interventions tailored to families of children with ASD.

This study has several methodological strengths. Caregiver-related and child-related factors were examined simultaneously within a single analytical model to provide a comprehensive understanding of caregiver burden. The use of standardized instruments with established psychometric properties supported the reliability and internal validity of the findings. Moreover, multivariate regression analysis enabled the concurrent assessment of risk and protective factors, thereby enhancing the rigor of the results. Data collection across multiple provincial hospitals increased the contextual relevance of comparable clinical settings.

This study has several limitations that warrant consideration. The cross-sectional design precludes causal inference and limits the interpretation of temporal relationships among variables. Reliance on self-report measures may introduce a response bias. Furthermore, contextual variables, such as socioeconomic status, social support, and service accessibility, were not comprehensively examined. Future longitudinal and multisite studies are recommended to improve causal understanding and external validity.

Conclusion

This study found that caregiver stress and child behavioral difficulties are key contributors to caregiver burden, while caregiver quality of life and children's strengths serve as important protective factors. These results highlight the need for routine screening for caregiver stress and burden within CDC, especially among primary caregivers. Early identification can enable timely support and help prevent escalation of caregiver burden. Pediatric nursing services should integrate structured stress management and psychosocial support for caregivers, along with early behavioral interventions for children, to reduce daily caregiving demands. Strength-based and family centered approaches that promote children's adaptive skills and caregiver well-being should also be prioritized. Collaboration between pediatric nurses and multidisciplinary teams is essential to provide coordinated care that addresses both caregiver needs and child development. These strategies may contribute to sustainable reductions in caregiver burden and improve family functioning in families of children with ASD.

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Availability of data and materials

The datasets generated and analyzed during the current study are available from the corresponding author upon reasonable request

Authors' contributions

KK developed the study's research design. SP, WO, and AT collected and analyzed the data. KK and JP wrote the first version of the manuscript. Both authors contributed to writing and completing the manuscript.

Declaration of Interest

The authors have no conflicts of interest.

References

Anter Mohamed, A. & Sayed Ali Abdelrahem, A. (2024). *Relation between Care Burden, Depression and Suicide Risk among Family Caregivers of Children with Autism Spectrum Disorder*. *Egyptian Journal of Health Care,* 15.4, 1620–1635. doi: 10.21608/ejhc.2024.405520

Azubuike, A. O., *et al.* (2024a). *Burden of Care and Experiences with Caregiving to Children Living with Autism Spectrum Disorder in Nigeria*. doi: 10.21203/rs.3.rs-4790501/v1

Azubuike, A. O., *et al.* (2024b). *Experiences and unmet needs among caregivers of children living with Autism Spectrum Disorder in Nigeria: A qualitative study using the socio-ecological model*. *Discover Social Science and Health,* 4.1, 77. doi: 10.1007/s44155-024-00141-w

Bearss, K., *et al.* (2015). *Effect of parent training vs parent education on behavioral problems in children with autism spectrum disorder: A randomized clinical trial*. *Jama,* 313.15, 1524–1533.doi: doi:10.1001/jama.2016.9050

Bozkurt, G., *et al.* (2019). *Examination of care burden and stress coping styles of parents of children with autism spectrum disorder*. *Journal of pediatric nursing,* 47. 142–147. doi: 10.1016/j.pedn.2019.05.005

Chaisena, C., *et al.* (2025). *Factors associated with the quality of life among caregivers of children with autism*. *Journal of Mental Health of Thailand,* 33.3, Available at: 10.64838/jmht.2025.276750. (in Thai)

Chua, S. Y., *et al.* (2023a). *Problem behaviours and caregiver burden among children with autism spectrum disorder*. *Frontiers in Psychiatry*.doi:

Chua, S. Y., *et al.* (2023b). *Problem behaviours and caregiver burden among children with Autism Spectrum Disorder in Kuching, Sarawak*. *Frontiers in Psychiatry,* 14. 1244164. doi: 10.3389/fpsyt.2023.1244164

Cohen, J. (1992). *Quantitative methods in psychology: A power primer*. *Psychol. Bull.,* 112. 1155–1159.

Costa, A. P., Steffgen, G., & Ferring, D. (2017). 'Contributors to well-being and stress in parents of children with autism spectrum disorder'. *Research in Autism Spectrum Disorders, 37*, 61-72.

Grove, S. K., *et al.* 2012. *The practice of nursing research: Appraisal, synthesis, and generation of evidence*, Elsevier Health Sciences.

Hastie, J. L. & Stephens, C. (2019). *Vicarious futurity: Parents' perspectives on locating strengths in adolescents with autism*. *Aotearoa New Zealand Social Work,* 31.1, 89–100.doi: 10.1007/s10803-013-2000-y

Huang, C.-Y., *et al.* (2014). *Impacts of autistic behaviors, emotional and behavioral problems on parenting stress in caregivers of children with autism*. *Journal of autism and developmental disorders,* 44. 1383–1390.doi: 10.1007/s10803-013-2000-y

Issac, A., *et al.* (2025). *The global prevalence of autism spectrum disorder in children: a systematic review and meta-analysis*. *Osong Public Health and Research Perspectives*.doi: 10.24171/j.phrp.2024.0286

Jiratheerarat, P., *et al.* (2025). *Factors predicting parental self-efficacy in parenting children with autism spectrum disorder*. *Nursing Science Journal of Thailand,* 43.4, 362–376. (in Thai)

Kassim, A. & Mohamed, N. H. B. (2019). *The global prevalence and diagnosis of autism spectrum disorder (ASD) among young children*. *Southeast Asia Psychol. J,* 7. 26–45. (in Malaysia)

Lan, K., *et al.* (2025). *Research Trends and Hotspots on Family Caregivers of Individuals With Autism Spectrum Disorder From 2002 to 2022: A Bibliometric Analysis*. *Journal of Child and Adolescent Psychiatric Nursing,* 38.1, e70008.doi: 10.1111/jcap.70008

Mahatnirankul S, P. W., Tapunya P. 1997. *The research report of the creation of the Suanprung Stress Test Chiang Mai. Chiang Mai Province: Suanprung Hospital 1997.*

Marsack-Topolewski, C. N., *et al.* (2025). *Characteristics of adult children with autism and caregiver burden*. *Family Relations*. doi.: 10.1111/fare.13141

Patel, S., *et al.* (2022). *Parenting stress within mother-father dyads raising a young child with autism spectrum disorder*. *Research in Autism Spectrum Disorders,* 99. doi:10.106/j.rasd.22.102051

Pelayo, G. L. (2025). *Resilience Rising: Implementation and Perspectives of a Family-Centered, Strengths-Based Program for Families Affected by High Caregiver Chronic Disease Burden and Childhood Psychosocial Dysfunction*.doi:

Ridzkina, S. M. (2024). *Caregiver burden dan kualitas hidup: Kajian studi pada ibu yang memiliki anak autisme spectrum disorder*. *JIWA: Jurnal Psikologi Indonesia,* 2.03. (in Indonesia)

Rueangmethasak, S., *et al.* (2025). *Parental caregiving burden in relation to autism spectrum disorder severity: Preliminary evidence from Bangkok, Thailand*. *Procedia of Multidisciplinary Research,* 3.10.doi:

Rutten, M. R., *et al.* (2024). *Autism spectrum disorder (ASD)*. Missouri: Elsevier

Shrestha, M., *et al.* (2024). *Prevalence of autism spectrum disorder among children in Southeast Asia from 2002 to 2022: An updated systematic review and meta-analysis*. *Health Science Reports,* 7.4, e2005.doi: 10.1002/hsr2.2005

Solaiman, M. A., *et al.* (2022). *Psychological Burden on Parents of Children with Autism Spectrum Disorder Attending in Tertiary Care Hospitals, Dhaka, Bangladesh*. *Ibrahim Cardiac Medical Journal,* 12.1, 18–24.doi: 10.3329/icmj.v12i1.69560

Song, C., *et al.* (2024). *Early developmental levels of children with autism spectrum disorder with different adaptive behaviors: a retrospective analysis*. *Journal of Zhejiang University-SCIENCE B,* 25.11, 1031–1038.doi: 10.1631/jzus.B2300310

Warreman, E. B. (2023). *Psychological, behavioural, and physical aspects of caregiver strain*. *EClinicalMedicine (The Lancet)*.doi: 10.1016/j.eclinm.2023.102211

Wongpiromsarn, Y., *et al.* (2011) '*Strengths and Difficulties Questionnaire (SDQ) Thai improved version: change and administration*', *J Ment Health Thai*, 19(2), pp. 128-134. (in Thai)

Zarit, S. H. & Zarit, J. M. 1990. *The memory and behavior problems checklist and the burden interview*, Gerontology Center, The Pennsylvania State University.

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