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Quality of Care and Mental Health Outcomes in Children with ADHD: A Cross-sectional Study in Saudi Arabia

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ABSTRACT

Attention-deficit hyperactivity disorder (ADHD) is a prevalent neurodevelopmental disorder that negatively impacts children's academic, social, and emotional development. This study investigates the link between the quality of care received by children with ADHD and their mental health outcomes. Conducted in Abdullah Al-Tamimi Autism Center in Unaizah, Saudi Arabia, the descriptive cross-sectional study involved 150 children aged 8-18 years diagnosed with ADHD. Data were collected over a 3-month period using the Quality-of-Care Scale and the Mental Health Continuum-Short Form (MHC-SF). Results showed an average Quality-of-Care Scale score of 73.47 [standard deviation (SD) = 12.34], with 83.3% of participants rating their care positively. The overall MHC-SF score was 46.68 (SD = 10.56), indicating moderate mental well-being. Significant positive correlations were found between care quality and emotional well-being ($r = 0.586$, $P < 0.001$) and overall mental health ($r = 0.875$, $P < 0.001$). Linear regression analysis revealed that each unit increase in care quality corresponded to a 0.492 increase in mental health scores ($B = 0.492$, $P < 0.001$). These findings highlight that high-quality care is associated with improved mental health outcomes for children with ADHD, emphasizing the need to address barriers to accessing care for enhanced treatment effectiveness and quality of life.

KEYWORDS

ADHD, Quality of care, Mental health outcomes, Children

INTRODUCTION

Attention-deficit hyperactivity disorder (ADHD) is one of the most widespread neurodevelopmental disorders affecting children and adolescents globally. Characterized by persistent patterns of inattention, hyperactivity, and impulsivity, ADHD disrupts various aspects of a child's life, including academic performance, social interactions, and emotional development (Salari *et al.,* 2023). The global prevalence of ADHD is estimated at 5.29%, but this rate rises to 8% in Saudi Arabia, particularly among males (MOH, 2021). This elevated prevalence in Saudi Arabia highlights the urgent need for targeted research and interventions, as it presents unique challenges and opportunities for addressing ADHD within the local context (Alotaibi *et al.,* 2023).

Understanding ADHD extends beyond its clinical manifestations; it is essential to consider the quality of care provided, which plays a critical role in achieving optimal treatment outcomes. Quality of care refers to the extent to which health services improve the likelihood of achieving desired health outcomes, as defined by current professional standards (Pillai *et al.,* 2024). For children with ADHD, receiving high-quality care is vital, as it directly impacts their mental health and overall well-being. Key components of quality care include accessibility, continuity, and the effectiveness of therapeutic interventions. Effective care can lead to improved symptom management and enhanced mental health and social functioning (Rocco *et al.,* 2021).

The mental health landscape for children with ADHD is complex and multifaceted. Research has shown that ADHD can heighten vulnerabilities to various psychological issues, such as difficulties in self-regulation, which often lead to emotional dysregulation and increased susceptibility to mood disorders (Merrill, Merrill and Madsen, 2022).

Additionally, social stigma surrounding ADHD can contribute to feelings of isolation and low self-esteem, complicating their mental health further. Therefore, addressing the mental health needs of these children is essential for fostering resilience and enhancing their overall quality of life (Smith and McVeigh, 2025).

Problem statement

Despite the growing recognition of ADHD in Saudi Arabia, many children face significant barriers to accessing quality care, which can exacerbate their condition (Jareebi *et al.,* 2024). These obstacles may include stigma, a shortage of specialized services, and inadequate training among healthcare providers (McKenna *et al.,* 2024). The Saudi healthcare system grapples with limited mental health resources and varying levels of awareness regarding ADHD, which can hinder timely diagnosis and effective treatment. Such challenges can delay necessary interventions, worsening symptoms, and increasing the risk of comorbid conditions like anxiety and depression (Alsubaie *et al.,* 2024). Understanding these barriers within the Saudi context is crucial for recognizing how they affect the mental health outcomes of children with ADHD.

Theoretical frameworks

Theoretical frameworks, such as the bioecological model, underscore the significance of various environmental systems in shaping a child's development. This model suggests that a child's experiences within their family, school, and broader societal contexts have a significant influence on their mental health outcomes (Kaushik, Garg and Mishra, 2023). In this context, the quality of care received—encompassing access to mental health resources and family support—can markedly affect these outcomes. Additionally, the therapeutic alliance concept, which refers to the collaborative relationship between healthcare providers and patients, is crucial for effective treatment. A strong therapeutic alliance can enhance treatment adherence and promote positive mental health outcomes in children with ADHD (Sagui-Henson *et al.,* 2022). Furthermore, family systems theory posits that individuals must be understood within their family context, emphasizing that ADHD affects not only the child but also family dynamics and parental mental health (Dawson *et al.,* 2017).

Significance of the study

The significance of this study lies in its potential to clarify the relationship between care quality and mental health outcomes for children with ADHD. Given the profound effects of ADHD on a child's development, it is essential to explore how care quality impacts their mental health aspects (Wolraich *et al.,* 2019). This research uniquely positions itself as the first to utilize both the Quality-of-Care Scale and the Mental Health Continuum-Short Form (MHC-SF) within the Saudi context. Existing literature suggests that high-quality care can significantly reduce ADHD symptoms and related mental health issues, thereby enhancing overall well-being (Ogrodnik, Karsan and Heisz, 2023; French *et al.,* 2024).

Furthermore, this research underscores the crucial role of family involvement in the treatment process. ADHD not only affects the child but also poses challenges to family dynamics and parental mental health (Claussen *et al.,* 2024). By examining how quality care can enhance family support systems, this study seeks to uncover broader implications for children's mental health. The findings may inform policymakers about the urgent need to enhance access to quality mental health services for children with ADHD. By establishing a clear connection between care quality and mental health outcomes, this study can advocate for policies that promote comprehensive and accessible mental health care, which is essential for the effective management of ADHD.

Research gap

Despite evidence linking care quality to ADHD outcomes internationally, little is known about this relationship in Saudi Arabia. There is a notable lack of empirical research specifically examining the connection between quality of care and mental health outcomes for children with ADHD in this region, particularly quantitative analyses that utilize validated instruments to assess these relationships. This study addresses this gap by assessing the association between various factors of care quality—such as accessibility, therapeutic relationships, and evidence-based practices—and mental health outcomes for children diagnosed with ADHD in Saudi Arabia.

Aim

The objective of this study is to assess the association between quality of care and mental health outcomes in children with ADHD.

Hypothesis

The hypothesis proposes that higher care quality will be associated with improved mental health outcomes.

METHODS

Study design and setting

The existing study employed a descriptive cross-sectional design, following the Strengthening the Reporting of Observational studies in Epidemiology (STROBE) guidelines, to investigate the relationship between the variables of interest. The data were collected from the male and female sections of six branches of the Abdullah Al-Tamimi Autism Center, located in Unaizah, Qassim, Saudi Arabia. This institution stipulates educational, therapeutic, and rehabilitative services for children with neurodevelopmental impairments.

Participants/sampling

To participate in this study, children with ADHD had to meet specific inclusion criteria and obtain written consent from their parents or guardians. If a child was unable to respond, the mother or an acquaintance was asked to complete the questionnaire on their behalf. To be eligible, participants needed to fulfill the following requirements: (i) meet the criteria for a clinical diagnosis of ADHD as outlined in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition; (ii) be between the ages of 8 and 18 years; (iii) be capable of understanding and responding to psychological treatment for a minimum of 1 year. Children diagnosed with conditions other than ADHD and those whose parents failed to provide written consent or complete all the questionnaires were excluded from the study.

To determine the requisite sample size, researchers originally recruited 230 youngsters with ADHD. The Epi Info version 7.2.1, developed by the Centers for Disease Control and Prevention (CDC), United States recommended a minimum sample size of 145, calculated with a 5% margin of error, an expected frequency of 50%, and a 95% confidence interval. Nevertheless, the team elected to commence with 170 participants. Ultimately, 20 individuals were excluded for various reasons: 5 did not meet the eligibility criteria, 12 were excluded from the final count because they were part of a pilot study, and 3 declined to participate. The final cohort consisted of 150 participants, exceeding the minimum size requirement (refer to Fig. 1).

Instruments/measures

Part I—Sociodemographic characteristics

The researchers developed the sociodemographic and clinical data through an extensive review of relevant literature. The data encompass age, gender, education, residence, monthly income, source of revenue, perception of health status, and quality of life. The clinical data include disease duration, presence of comorbidities, type of ADHD, and treatment received.

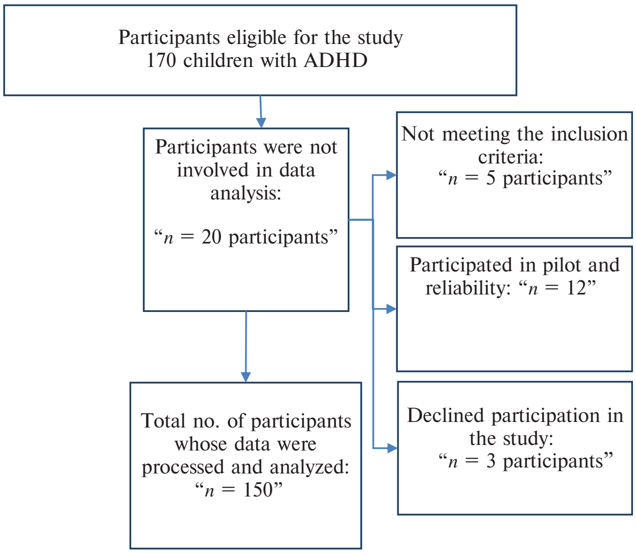

Figure 1: Flow chart of participants' recruitment process. Abbreviation: ADHD, attention-deficit hyperactivity disorder.

Part II—The Quality-of-Care Scale

The quality of care was assessed through self-reports using a 19-item Quality-of-Care Scale (Bredemeier *et al.,* 2014). There are four subscales on this instrument: social needs (9-13), professionals and assistance (1-4), access (5-8, 18, and 19), and information received (14-17) (Bredemeier *et al.,* 2014). The questions were posed to guardians, relatives, caregivers, or friends of children with ADHD, who used no, partially, or yes to rate their responses. We assigned a score of 1 (no), 3 (partially), and 5 (yes) to quantify the total value of the responses and convert the scale from 0 (zero) to 100 (Dias, Friche and Lemos, 2020). Responses of "yes" or "no" to the majority of queries in the instrument indicated positive or negative evaluations of the quality of care. However, in some questions regarding access subscale, this relationship is reversed; that is, the answer "no" is considered positive, while the answer "yes" is deemed negative. Therefore, the first four items of this construct were inverted in the analysis to ensure consistency in direction for everyone involved.

Intervals less than 50 in the description and comparison of the items of each construct indicated a negative response on the Quality-of-Care Scale, suggesting disagreement over the item. Intervals larger than 50 indicated agreement, while partiality responses were indicated by values equal to 50. Previous research has found the Quality-of-Care Scale to be reliable (Dias, Friche and Lemos, 2019; Dias, Friche and Lemos, 2020). The existing study indicated high internal reliability (Cronbach's alpha) for the 19-item Quality-of-Care Scale ($\alpha = 0.843$).

Part III—The MHC-SF

The current study employed the MHC-SF, developed by Keyes *et al.* (2008), a 14-item self-report scale that assesses the respondent's emotional (3 items), social (5 items), and psychological (6 items) well-being. Participants rated their replies using a 6-point Likert scale, with options from 0 (never) to 5 (every day). Scores can be calculated both continuously and categorically. The research primarily employed a continuous scoring method by aggregating scores from each subscale: emotional well-being [EWB (0-15)], social well-being [SWB (0-25)], and psychological well-being [PWB (0-30)], resulting in a total well-being score ranging from 0 to 70. Elevated scores represent better mental health, while lower scores indicate worse mental health.

Additionally, using the MHC-SF item scores, three subcategories were distinguished: flourishing, moderate, and languishing. Individuals were considered flourishing if they responded "every day" or "almost every day" to the EWB measure and at least once to at least 11 items measuring SWB and PWB. If participants reported experiencing at least one item from the EWB scale and at least six items from the SWB and/or PWB measures, they were classified as languishing. This classification was based on whether they reported experiencing the item "never" or "once or twice." The respondents' mental health is intermediate since they were neither classified as thriving nor languishing (Keyes, 2005). The discriminant reliability and internal consistency of the scale have been shown to be satisfactory in a prior study (Miklósi *et al.,* 2024). The existing study indicated high internal reliability (Cronbach's alpha) (0.815) for MHC-SF.

Instrument validation

Once the appropriate authorities officially approved the study, a pilot study was conducted with (n = 12) of the total participants to assess the validity, reliability, transparency, and objectivity of the research instruments, and they were excluded from the final analysis. The instruments were translated into Arabic and reviewed by a panel of five experts in mental health and psychiatric nursing, who evaluated the Arabic versions of the tests for clarity, thoroughness, cultural appropriateness, and content validity in relation to Saudi culture. The questionnaire was expected to take an average of 15-20 min to complete.

Data collection procedures

Data collection began after receiving ethics approval. On the designated follow-up day, researchers visited both the men's and women's divisions of the Abdullah Al-Tamimi Center. Following the established inclusion criteria, they approached each eligible child with their associate to build rapport, explain the study's purpose, and confirm the participants' willingness to engage voluntarily. The researchers then conducted interviews with each child, their mother, and/or teacher to gather data relevant to the measured constructs. Completing the questionnaire took approximately 15-20 min. Data collection spanned 3 months, from early December 2024 to late February 2025.

Ethics approval

The study received approval from the regional research ethics committee (607/46/4838), and permission was granted by the administration of the Abdullah Al-Tamimi Center after they were informed about the study's aims and methods. Parental or guardian approval was obtained, assent was secured from children aged 12 years and older, participation was voluntary without incentives, and individuals were not subjected to coercion. To ensure confidentiality, no identifying information, such as names or phone numbers, was collected. The principles of data privacy, voluntary participation, and anonymity were strictly adhered to in accordance with the guidelines outlined in the Declaration of Helsinki (World Medical Association, 2025).

Statistical analysis

Data were analyzed using SPSS software, version 23.0 (IBM Corporation, Armonk, NY, USA). To summarize the data effectively, descriptive statistics, including standard deviations, percentages, and averages, were calculated. The reliability of the research instruments was assessed using Cronbach's alpha.

The Pearson correlation coefficient was employed to evaluate correlations among normally distributed quantitative variables. Normality was assessed using histograms, Q–Q plots, and the Shapiro–Wilk test, indicating that the subscales of the Quality-of-Care Scale and the components of the MHC-SF were approximately normally distributed.

Furthermore, satisfaction and regression analyses were conducted to ascertain the most significant variables influencing the outcomes. The effect of the overall quality of care on MHC-SF scores was assessed using a simple linear regression. At the same time, the influence of the subscales (assistance, access, social needs, and information received) was scrutinized through a multivariate model. For both models, we reported the coefficient of determination (R^2, adjusted R^2), t-test results, P-values, 95% confidence intervals [lower limit, upper limit], F and P statistics, unstandardized coefficients (B), and standardized coefficients (β). Significance was assessed at $P < 0.05$ once the regression assumptions were verified. A P-value of less than 0.05 is deemed statistically significant. Conversely, if the P-value exceeds 0.05, it can be concluded that there are no statistically significant differences. This rigorous statistical approach seeks to ensure the robustness and validity of the findings.

RESULTS

Table 1 shows that most participants (72.7%) fall within the 10-18 years age range, and there is a notable gender imbalance, with males comprising 83.3% of the group. A significant number of these children (63.3%) lack basic literacy skills, which may hinder their ability to access educational resources effectively. The majority reside in urban areas (90.0%) and report adequate monthly income (84.7%), indicating a generally stable economic situation.

In terms of health perceptions, 61.3% of caregivers consider their children's health to be good, while only 5.3% rate it as poor. Quality of life ratings indicate that nearly half (49.3%) view their child's quality of life as good, while 40.7% rate it as intermediate. The duration of ADHD diagnosis reveals that almost half of the children (49.3%) have had the diagnosis for 10-15 years. Importantly, a large majority (91.3%) do not have additional conditions alongside ADHD, with the combined type of attention deficit and hyperactivity being the most prevalent (90.7%). In terms of treatment, 50.7% of the children receive both medication and behavioral therapies, while 9.3% have not undergone any treatment.

Table 2 reveals that the mean score for the Quality-of-Care Scale is 73.47, indicating a generally positive perception, with 83.3% of respondents rating the quality as positive. The breakdown reveals that "assistance" has the highest mean percent score at 76.83, while "access" scored the lowest at 66.00, indicating potential challenges in accessing care.

Regarding mental health, the overall score on the MHC-SF is 46.68, suggesting moderate mental well-being,

Table 1: Sociodemographic characteristics of children with ADHD (*n* = 150).

Sociodemographic characteristics	No.	%
Age (years)		
0-<10	41	27.3
10-<18	109	72.7
Gender		
Male	125	83.3
Female	25	16.7
Level of education		
Does not read or write	95	63.3
Read and write	29	19.3
Primary	18	12.0
Preparatory	4	2.7
Secondary	4	2.7
Residence		
Urban	135	90.0
Rural	15	10.0
Monthly income		
Insufficient	15	10.0
Sufficient	127	84.7
More than sufficient	8	5.3
Source of income		
Work	6	4.0
Family	97	64.7
Financial aids	32	21.3
Other	15	10.0
Health status perception		
Poor	8	5.3
Fair	38	25.3
Good	92	61.3
Very good	12	8.0
Quality of life perception		
Intermediate	61	40.7
Good	74	49.3
Very good	15	10.0
Duration of illness		
<5	37	24.7
5-<10	39	26.0
10-<15	74	49.3
Does the child suffer from other conditions besides ADHD?		
No	137	91.3
Yes	13	8.7
Type of hyperactivity disorder		
Attention deficit	14	9.3
Hyperactivity and attention deficit	136	90.7
Type of treatment the child received		
No treatment	14	9.3
Drugs	6	4.0
Behavioral treatment	54	36.0
Drugs and behavioral treatment	76	50.7

Abbreviation: ADHD, attention-deficit hyperactivity disorder.

with a mean percent score of 66.69. EWB scores indicate a positive trend at 69.38, whereas SWB scores are somewhat lower at 64.53, suggesting difficulties in social interactions. A significant portion (51.3%) of participants is classified as flourishing, while 44.7% fall into a moderate category, and only 4.0% are categorized as languishing.

The Pearson correlation coefficients (r) in Table 3 indicate strong positive correlations across the board, all of which are statistically significant ($P < 0.001$). The "assistance" variable correlates notably with "access" ($r = 0.390$) and shows even stronger correlations with "information received" ($r = 0.713$) and the overall Quality-of-Care Scale ($r = 0.833$).

Moreover, EWB is significantly correlated with various aspects of care quality. The correlation with the Quality-of-Care Scale is particularly strong ($r = 0.586$), indicating that higher-quality care is associated with better EWB. Additionally, correlations with SWB ($r = 0.474$) and PWB ($r = 0.575$) further underscore the need for comprehensive support systems that address both social and psychological needs. The MHC-SF scores demonstrate a robust correlation with the Quality-of-Care Scale ($r = 0.875$).

Table 4 indicates a statistically significant positive effect of care quality on mental health outcomes, with an unstandardized coefficient (B) of 0.492. The standardized coefficient (β) of 0.582 indicates a strong association, implying that enhancements in care quality are linked to better mental health outcomes. The t-value of 8.707 confirms the significance of this relationship, with a P-value of less than 0.001, reinforcing the robustness of the findings. The model accounts for 33.9% of the variance in mental health outcomes, as indicated by the R^2 value, with an adjusted R^2 of 0.334, demonstrating a good fit for the data.

Table 5 reveals significant effects for several variables. Notably, "access" has a strong positive effect with an unstandardized coefficient (B) of 0.889 and a standardized coefficient (β) of 0.423, indicating that better access to care is significantly linked to improved mental health outcomes ($P = 0.001$).

Additionally, "information received" shows a significant effect, with a standardized coefficient of 0.355 and a t-value of 5.882, highlighting the importance of providing thorough information to families in promoting better mental health ($P < 0.001$). In contrast, "assistance" demonstrates a positive effect ($B = 0.101$). At the same time, the variable "social needs" does not present a statistically significant impact ($P = 0.241$), suggesting that addressing social needs may not have a direct influence on mental health outcomes in this context. Overall, the model explains 37.4% of the variance in mental health outcomes, as indicated by the R^2 value, with an adjusted R^2 of 0.357, indicating a good fit. The F-value of 21.685 and P-value of < 0.001 further affirm the model's significance.

DISCUSSION

The present study aimed to examine the connection between the quality of care received and the mental health outcomes of children with ADHD. The findings revealed that most participants had a favorable perception of the care quality they received, primarily due to the expert guidance and detailed information provided. However, the lowest ratings were in the access domain, indicating significant challenges in obtaining care. This disparity denotes that while caregivers appreciate the quality of interactions with professionals, systemic barriers still hinder access to necessary services.

Table 2: Descriptive statistics of quality of care and mental health variables among children with ADHD (n = 150).

Variables	Total score		Mean percent score	
	Mean	±SD	Mean	±SD
Quality-of-Care Scale	73.47	11.87	71.63	15.67
Assistance	16.32	3.42	76.83	21.69
Access	21.84	4.77	66.00	19.87
Social needs	19.51	4.61	72.53	23.06
Information received	15.80	3.31	73.75	20.67
Levels	No.		%	
Negative evaluation	2		1.3	
Partiality evaluation	23		15.3	
Positive evaluation	125		83.3	
Mental Health Continuum-Short Form	46.68	10.03	66.69	14.33
Emotional well-being	10.41	2.63	69.38	17.51
Social well-being	16.13	4.14	64.53	16.55
Psychological well-being	20.14	5.49	67.13	18.31
Levels				
Flourishing	77		51.3	
Moderate	67		44.7	
Languishing	6		4.0	

Abbreviation: ADHD, attention-deficit hyperactivity disorder.

Table 3: Pearson correlations between quality of care and mental health outcomes (n = 150).

	Assistance	Access	Social needs	Information received	Quality-of-Care Scale	Emotional well-being	Social well-being	Psychological well-being	Mental Health Continuum-Short Form
Assistance									
r									
P									
Access									
r	0.390*								
P	<0.001*								
Social needs									
r	0.488*	0.098							
P	<0.001*	0.234							
Information received									
r	0.713*	0.275*	0.556*						
P	<0.001*	0.001*	<0.001*						
Quality-of-Care Scale									
r	0.833*	0.629*	0.723*	0.811*					
P	<0.001*	<0.001*	<0.001*	<0.001*					
Emotional well-being									
r	0.519*	0.314*	0.445*	0.495*	0.586*				
P	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*				
Social well-being									
r	0.292*	0.450*	0.302*	0.293*	0.464*	0.474*			
P	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*			
Psychological well-being									
r	0.285*	0.414*	0.270*	0.284*	0.433*	0.345*	0.575*		
P	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*		
Mental Health Continuum-Short Form									
r	0.413*	0.494*	0.389*	0.406*	0.582*	0.647*	0.852*	0.875*	
P	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*	

Abbreviation: *r*, Pearson correlation coefficient.
*Statistically significant at $P \leq 0.05$.

Participants reported a high level of satisfaction with the care quality, which enhances their understanding of ADHD and promotes treatment adherence. This positive feedback underscores the importance of effective communication and collaboration between caregivers and healthcare professionals. However, the low access ratings highlight a need for

Table 4: Linear regression analysis showing the effect of overall Quality-of-Care Scale scores on Mental Health Continuum-Short Form scores (n = 150).

Variable	B	β	t	P	95% CI	
					LL	UL
Quality-of-Care Scale	0.492	0.582	8.707*	<0.001*	0.380	0.603

R^2 = 0.339, adjusted R^2 = 0.334, F = 75.810^*, P < 0 001^*

Abbreviations: β, standardized coefficients; B, unstandardized coefficients; CI, confidence interval; F, F-value for the model; LL, lower limit; P, P-value for the model; R^2, coefficient of determination; t, t-test of significance; UL, upper limit.
*Statistically significant at $P \leq 0.05$.

Table 5: Multivariate linear regression analysis of Quality-of-Care Scale components predicting Mental Health Continuum-Short Form scores (n = 150).

Variable	B	β	t	P	95% CI	
					LL	UL
Quality-of-Care Scale						
Assistance	0.101	0.035	5.882*	<0.001*	0.590	1.187
Access	0.889	0.423	3.299*	0.001*	0.232	0.925
Social needs	0.578	0.266	1.177	0.241	−0.242	0.952
Information received	0.355	0.117	5.882*	<0.001*	0.590	1.187

R^2 = 0.374, adjusted R^2 = 0.357, F = 21.685^*, P < 0.001^*

Abbreviations: β, standardized coefficients; B, unstandardized coefficients; CI, confidence interval; F, F-value for the model; LL, lower limit; P, P-value for the model; R^2, coefficient of determination; t, t-test of significance; UL, upper limit.
*Statistically significant at $P \leq$ 0 05.

improved systems to facilitate timely care. The decline in access to care may be attributed to various factors, including long wait times, stigma, and socioeconomic and cultural barriers that impede continuity of care. Recognizing these obstacles is crucial for improving the overall quality of care available to families.

The findings align with previous studies in Saudi Arabia, which indicated that high-quality services were delivered to ADHD patients (Alsubaie *et al.,* 2024). The outcome findings coincide with a preceding study in Saudi Arabia, which displayed that parents expressed a significant interest in obtaining supplementary information about ADHD. This highlights the importance of a thorough understanding and effective assistance for this condition (Alhefdh *et al.,* 2024). In addition, the study in Taiwan highlighted that parents' comprehension of ADHD is crucial for making informed decisions about their children's condition management. Parents' knowledge about ADHD influences multiple facets of their children's care, including diagnosis, treatment, and adherence to treatment (See *et al.,* 2021).

Despite this, caregivers face persistent barriers when seeking help. Common challenges include stigma surrounding ADHD and mental health services, as reported in both local and international contexts. In line with earlier studies, caregivers from diverse backgrounds encounter difficulties related to stigma, referral processes, and long wait times (Paidipati *et al.,* 2022; McKenna *et al.,* 2024). In a similar vein, a previous study in South London highlighted that ADHD caregivers confronted significant challenges in obtaining the diagnosis, including extended waiting periods, lengthy diagnostic processes, the necessity of consulting multiple doctors, issues related to misdiagnosis, a shortage of resources, and difficulties in finding professionals who would provide attentive care (Rezel-Potts *et al.,* 2021). Addressing these barriers is essential for enhancing access and ensuring continuity of care.

Our study revealed moderate overall mental well-being, particularly in the emotional and psychological domains, while SWB scores were notably low, indicating difficulties in social interactions. This contrast raises important questions about why EWB may flourish while SWB lags. Children with ADHD often face challenges in social integration, which can hinder their relationships with peers and family. Factors such as impulsivity and hyperactivity contribute to these social challenges, which can lead to potential isolation. These social challenges are compounded by the stigma surrounding ADHD, which may further inhibit children from engaging socially.

Our results are consistent with earlier Canadian studies, which indicate high levels of flourishing among individuals with ADHD (Fuller-Thomson *et al.,* 2022), and a study in Spain that found comparable levels of well-being in children with ADHD compared to healthy controls (Gómez-Cabezas *et al.,* 2025). While many children exhibit emotional resilience, cultural and familial dynamics may significantly influence their social experiences. For instance, children's positive outlooks may stem from an optimistic bias, where they perceive their abilities as comparable to those of their peers, despite facing challenges (Crisci, Cardillo and Mammarella, 2022). This highlights the importance of understanding cultural contexts in shaping perceptions of ADHD and its treatment.

The findings of the current study revealed significant positive correlations between professional assistance, access to services, and the information received subscales with the overall quality of life scale. This highlights the critical need to identify barriers to care and improve family support, which are vital for enhancing access to services and providing essential information to effectively manage ADHD in both patients and their families.

Research conducted by Bisset *et al.* (2023) corroborated the findings of this study, suggesting strategies to address the needs of individuals with ADHD. These strategies include increasing access to high-quality, multimodal care, integrating recovery principles into treatment frameworks, enhancing health literacy among individuals with ADHD, and promoting greater consumer participation in research, service development, and education related to ADHD.

Moreover, a recent meta-analysis indicated that ADHD is associated with higher service utilization and costs, revealing unmet health needs and insufficient service usage among children with ADHD. As such, governments must enhance access to effective services to mitigate the impacts of ADHD (Dodds *et al.,* 2024). Additionally, prior systematic reviews and meta-analyses have noted that while ADHD is linked to increased service utilization and associated costs, there are significant signs of unmet health needs and underutilization among affected children. Therefore, governments must prioritize improving access to effective services for children with ADHD to alleviate these challenges (Dodds *et al.,* 2024).

The results of this study indicate that EWB is significantly associated with various aspects of care quality, suggesting that higher-quality care is correlated with improved emotional health. Furthermore, correlations with SWB and PWB emphasize the need for comprehensive support systems that address both social and psychological needs. The overall scores from the MHC-SF demonstrate a strong correlation with the Quality-of-Care Scale, indicating that children who receive higher-quality care are likely to experience better overall mental health. Additionally, the linear regression analysis shows a statistically significant positive relationship between care quality and mental health outcomes, reinforcing the study's hypothesis. This emphasizes the importance of long-term medical treatment and psychosocial interventions in managing ADHD to enhance patient outcomes. Regular assessments and follow-ups are essential to meet healthcare needs, ensuring that patients have adequate access to care and comprehensive information that supports them throughout their lives, as they adapt to changing environments and healthcare demands.

The results are consistent with a study from the UK, which emphasizes the urgent need for policy changes regarding service delivery and the accessibility of ADHD specialists. This is essential for ensuring timely access to services and addressing ongoing unmet needs, morbidity, and impairment resulting from delays (Young *et al.,* 2021). A study in Kenya also highlighted that disruptions in healthcare quality can lead to significant immediate health consequences (Friedman, Keats and Mutua, 2022).

McKenna *et al.* (2024) stress the importance of promoting ongoing service utilization and supportive care outcomes through the establishment of long-term relationships between healthcare providers and caregivers managing patients' conditions. Additionally, a Jordanian study found that continuity of care has a significant influence on patients' quality of life, social functioning, and symptom severity (de Cruppé *et al.,* 2023).

LIMITATIONS OF THE STUDY

This study faces several limitations due to its cross-sectional design, which restricts the ability to establish causal relationships between care quality and mental health outcomes. This limitation means that while associations can be identified, we cannot determine the directionality or causality of these relationships. Longitudinal research would provide deeper insights into how these dynamics evolve.

Additionally, the sample was sourced from a single institution, which may limit the broader applicability of the findings. This single-institution focus could lead to results that are not representative of the wider population, potentially affecting the generalizability of the conclusions drawn. The reliance on self-reported data also introduces potential bias, as participants' perceptions might be swayed by social desirability or a lack of awareness. This reliance may lead to inflated perceptions of care quality or mental well-being, impacting the validity of the findings.

Moreover, excluding children with comorbid conditions may overlook the complexities associated with ADHD and other mental health disorders. This exclusion could lead to an overestimation of the positive correlation between care quality and mental health outcomes, as comorbidities often complicate treatment efficacy and patient experiences. Ultimately, the cultural context of Saudi Arabia may influence how these findings are applied to various healthcare settings or cultural environments. Future studies should aim to include diverse cultural contexts to assess the applicability of these findings across different populations.

To address these limitations, future research could employ multi-center or longitudinal designs to capture a more representative sample and track changes over time. Including populations with comorbid conditions would also enhance the understanding of ADHD's complexities and allow for a more nuanced analysis of care quality and mental health outcomes.

RECOMMENDATIONS

- Future studies should implement a longitudinal design to investigate the lasting effects of care quality on mental health outcomes in children with ADHD. This will help establish causal relationships and observe changes over time.
- To enhance the generalizability of results, expand the sample size to include multiple institutions and diverse populations. This study will address the limitations of single-institution studies and provide a more comprehensive understanding of ADHD management across various contexts.

- Establish training programs for healthcare providers to improve their understanding and management of ADHD and related mental health challenges. This aligns with findings that emphasize the importance of expert guidance in enhancing care quality.
- Policymakers should prioritize efforts to improve access to mental health services, reduce stigma, and enhance the overall quality of care for ADHD patients. This recommendation directly addresses the low access scores identified in the Quality-of-Care Scale, ensuring that families can obtain the necessary support.

CONCLUSION

This study demonstrates a significant positive relationship between the quality of care provided to children with ADHD and their mental health outcomes. Children receiving higher-quality care—particularly in domains of access, assistance, and information provision—exhibited improved EWB, SWB, and PWB. Addressing barriers to care, including limited access and inadequate information, is essential to enhancing treatment effectiveness and overall quality of life.

RELEVANCE TO CLINICAL PRACTICE

These current findings underscore the importance of cultivating strong therapeutic relationships, promoting effective communication, and incorporating structured family support into care plans. Healthcare providers should prioritize interventions that enhance accessibility, provide clear guidance, and actively engage families in the management of ADHD. Implementing these strategies may enhance treatment adherence, improve mental health outcomes, and promote long-term well-being. Policymakers and clinicians are encouraged to adopt comprehensive, patient-centered approaches that address both clinical and psychosocial needs, thereby optimizing outcomes for children with ADHD.

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CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

AUTHOR CONTRIBUTIONS

MAK and RMH developed the study's concept and design. The data collection was carried out by RMH and NA, with all three—RMH, NA, and MAK—contributing to the data analysis. RMH was responsible for drafting the initial manuscript, while MAK provided essential feedback. All authors collaborated on the revisions and gave their approval for the final version of the manuscript.

DATA AVAILABILITY STATEMENT

The datasets used or analyzed in this study are available from the corresponding author upon request.

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