

The Relationship Between Parental Attitudes and Treatment Compliance Among Families of Children With Epilepsy

Zahraa Basim Mohammed ¹, Ashraf MA. Hussain ²

¹ PHD. student pediatric Nursing/Thi-qar Health Directorate, College of Nursing/University of Babylon, Iraq.

E-mail: nur481.zahraa.bashim@student.uobabylon.edu.iq

² Assistant Professor. PhD in Community Medicine, Department of Community and Family Medicine, College of Medicine, University of Babylon, Iraq.

E-mail: med.ashraf.hussain@uobabylon.edu.iq

Abstract

Background: Epilepsy is a common chronic neurological disorder in children that requires continuous medical care and regular treatment. Parents' attitudes toward their child's illness and treatment can play an important role in their commitment to the child's therapeutic regimen. Treatment compliance is essential for controlling seizures, preventing complications, and improving the child's health outcomes. Therefore, this study aims to determine the relationship between parental attitudes and treatment compliance among families of children with epilepsy in Thi-Qar Governorate, Iraq.

Methods: A cross-sectional study was conducted on a sample of 200 parents who had children affected with epilepsy. The sample distributed throughout three hospitals includes (Nasiriyah Teaching Hospital, Bint Al-Huda Teaching Hospital and Martyr Muhammad Al-Moussawi Children's Hospital). The reliability of the questionnaire was achieved through a pilot study and then presented to experts to prove its validity. The total number of items included in the questionnaire to measure parental attitudes was 8-items and was 14-items to measure treatment compliance. The data was collected by using the interview technique and analyzed by the application of descriptive and inferential statistical data analysis approach.

Results: The study showed that 59% of parents had a moderate level of attitudes, while 55% of families had moderate treatment compliance. The results also revealed a weak positive correlation between parental attitudes and treatment compliance ($r = 0.482$). Statistically significant differences in parental attitudes were found according to the father's age, family type, number of children, mother's education, father's occupation, and monthly income ($p < 0.05$).

Conclusions: Positive parental attitudes contribute to better treatment compliance among children with epilepsy and support the effective management of the condition. Therefore, educational programs for parents are needed to promote positive parental attitudes and improve treatment compliance among children with epilepsy.

Key-wards: Epilepsy, Iraq, Parental attitudes, Treatment compliance.

INTRODUCTION

Epilepsy is one of the most common chronic neurological disorders in childhood and is characterized by recurrent, unprovoked seizures that can significantly affect the health and daily life of children and their families [1]. The chronic nature of epilepsy requires continuous medical care, regular follow-up, and long-term use of antiseizure medications to achieve adequate seizure control. Therefore, effective treatment management is an essential component of caring for children with epilepsy [2]. Parents play a central role in the management of childhood epilepsy because they are often responsible for administering medications, monitoring seizures, attending medical appointments, and supporting the child in following the prescribed treatment plan. Treatment compliance is particularly important in children with epilepsy because failure to take antiseizure medications as prescribed may contribute to inadequate seizure control and increase the risk of complications [3]. A systematic review and meta-analysis found that adherence to antiseizure medications among children with epilepsy remains suboptimal, with adherence rates varying considerably across studies. Family support and support from healthcare providers were among the factors associated with better medication adherence [4]. Parental attitudes toward epilepsy and its treatment can influence how families manage the child's condition. Positive attitudes, understanding of epilepsy and confidence in medical treatment may encourage parents to follow treatment recommendations and provide consistent support for their child. In contrast, misconceptions, concerns about medications, and negative beliefs about epilepsy may create barriers to treatment compliance [5].

Research on parents' perceptions and decision-making regarding childhood epilepsy has shown that caregivers' beliefs and experiences can influence their decisions about antiseizure medications and other treatment options [6]. Studies in the Middle East have demonstrated that misconceptions and gaps in parental knowledge about epilepsy continue to exist despite advances in medical care. For example, a study conducted in the Al-Baha region of Saudi Arabia found that although most parents recognized that epilepsy was not contagious and many considered medication the primary treatment, important misconceptions regarding the causes and nature of epilepsy remained [7]. In Baghdad, Iraq, a 2022 study involving 107 parents found that 65.4% had a good attitude

toward their children with epilepsy, while 57.0% had good knowledge, indicating that positive attitudes do not always correspond with adequate knowledge [8]. Treatment compliance among children with epilepsy can be influenced by several factors, including parental knowledge and attitudes, beliefs about medications, medication side effects, treatment complexity, and communication with healthcare providers. Recent evidence has shown that medication-related beliefs and concerns, as well as adverse effects, are significantly associated with non-adherence among children with epilepsy [9]. Similarly, studies have identified caregiver knowledge and positive attitudes toward epilepsy as factors associated with better adherence to antiseizure medications [10]. These findings highlight the importance of considering the parental perspective when assessing treatment compliance in children with epilepsy. Educational and supportive interventions for parents may therefore have an important role in improving treatment compliance. Evidence from systematic reviews indicates that interventions directed toward children with epilepsy and their parents can be used to promote adherence to antiseizure medications, while education can help families understand the purpose and importance of regular treatment [11]. Improving parents' understanding of epilepsy and encouraging positive attitudes toward treatment may contribute to more consistent adherence and better management of the child's condition. This study aims to investigate the relationship between parental attitudes and treatment compliance among families of children with epilepsy in Thi-Qar Governorate, Iraq. Through this study, we hope to provide recommendations for strengthening parental education and promoting positive attitudes toward epilepsy and its treatment, thereby improving treatment compliance and supporting better health outcomes for children with epilepsy.

METHODOLOGY

A cross-sectional study was conducted on a sample of 200 parents of children with epilepsy which was selected purposively. The sample was distributed throughout three hospitals at Thi-Qar Governorate / Southern Iraq. Study instrument: The questionnaire is one of the means used to collect data that contribute to achieving the expected results of the study. Therefore, the researcher designed a questionnaire, which aims to clarify the study objectives and significance by obtaining answers to the study's questions.

This questionnaire consists of two parts which includes the following:

Part I: This section composed of socio-demographic information which include parents age, education level, occupation, family income/month, and number of children in family.

Part II: This section consists of (8-items) scale deals with parental attitudes which was developed and adopted by (Aljandeel, 2021), and designed to measure the attitudes of parental toward epilepsy [12].

Part III: This section consists of (14-items) scale deals with treatment compliance which was developed and adopted by (Morisky et al., 2008), and designed to measure treatment compliance among families for children with epilepsy [13].

Validity was assigned to each of the study questionnaire's components based on linguistic appropriateness, correlation with the dimension of study variables to which it was assigned, and fit for the study population.

Reliability of the test assessed by delivering to 20 people from the study population who were not a part of the initial sample. The Cronbach's alpha was found to be 0.81 for parental attitudes and 0.83 for treatment compliance.

Statistical analysis achieved by SPSS version 27. Data were distributed and variances were examined using the independent samples t-test and one-way analysis of variance based on the sociodemographic characteristics of the participants. Results were presented descriptively using mean and standard deviation or percentages depending on the data type. Results were considered statistically significant if the p-value was less than 0.05.

RESULTS

Table (1): Sample Characteristics

Data	Classification	Frequency	Percent
Age of mothers	20-30 years	51	25.5
	31-40 years	123	61.5
	41-50 years	26	13.0
	Total	200	100.0
Age of fathers	20-30 years	60	30.0
	31-40 years	118	59.0
	41-50 years	22	11.0
	Total	200	100.0

types of family	nuclear	111	55.5
	extended	89	44.5
	Total	200	100.0
Number of children	1-3	63	31.5
	4-6	98	49.0
	7 and above	39	19.5
	Total	200	100.0
Educational level of mother	neither reads nor write	16	8.0
	reads and write	32	16.0
	Elementary graduate	44	22.0
	middle school/ middle school graduate	40	20.0
	Institute/ college	57	28.5
	master / PhD	11	5.5
	Total	200	100.0
Educational level of father	neither reads nor write	2	1.0
	reads and write	7	3.5
	Elementary graduate	122	61.0
	middle school/ middle school graduate	14	7.0
	Institute/ college	55	27.5
	Total	200	100.0
Occupation of mother	Employment	61	30.5
	Un employment	139	69.5
	Total	200	100.0
Occupation of father	Employment	96	48.0
	Un employment	104	52.0
	Total	200	100.0
Monthly income	sufficient	73	36.5
	Barely sufficient	63	31.5
	not sufficient	64	32.0
	Total	200	100.0

The study assessed 200 of parents of children affected by epilepsy. The socio-demographic data of the study sample reveal that the majority mothers and fathers were aged between 31–40 years (within 60%), Regarding family structure, 55.5% lived in a nuclear family, while 44.5% were part of extended families. The majority of families had between 4–6 children (49%), while 19.5% had seven or more. In terms of maternal education, 28.5% of mothers had an institute or college degree, and 5.5% held a master's or PhD, whereas 8% were illiterate. On the other hand 61% of fathers, were elementary graduates, 27.5% had an institute or college education. Employment rates showed that 48% of fathers and 30.5% of mothers were employed hence monthly income were sufficient for 36.5% of families and not sufficient for 32%. Regarding residence (78.5%) of families lived in urban areas. This demographic profile highlights the predominance of middle-aged, married, urban-dwelling mothers as primary caregivers, with variable socioeconomic and educational backgrounds.

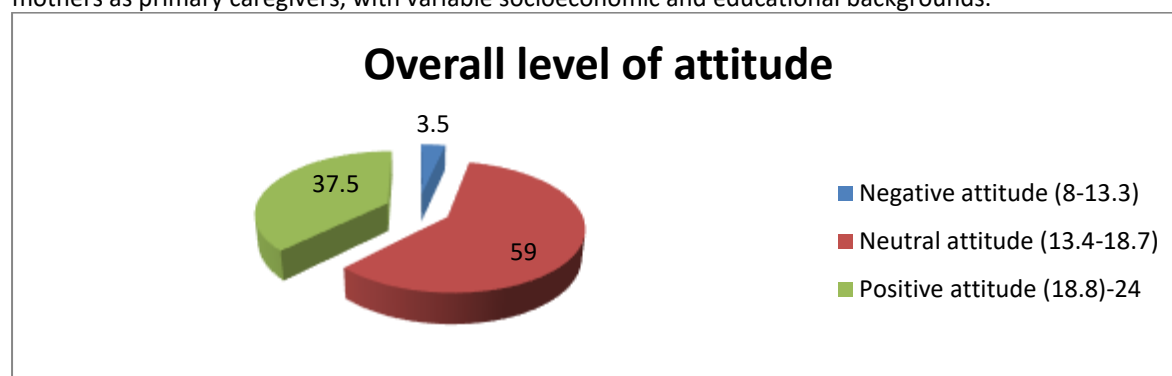


Figure (1): distribution of parents according to their attitude score

By studying the attitudes of parents, most of them (n=118; 59 percent) had moderate score attitude and 37% had positively scored and only 3.5% scored negative.

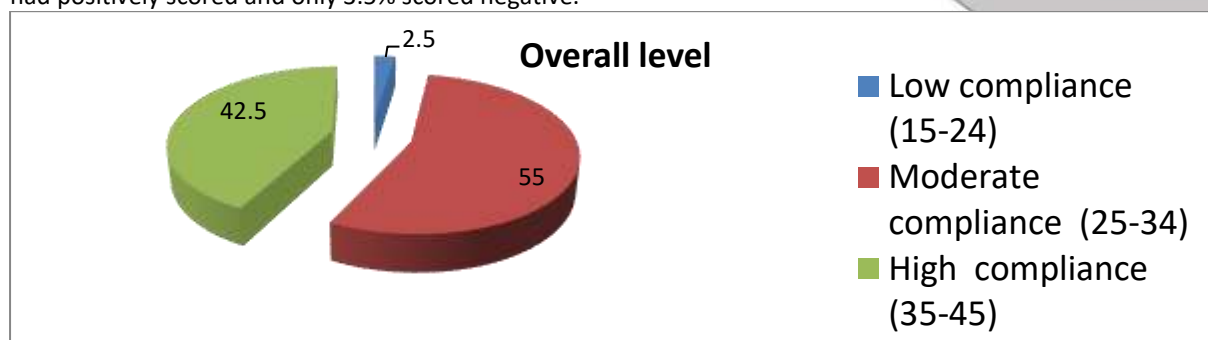


Figure (2): distribution of parents according to their treatment compliance score

By studying treatment compliance of parents, most of them (n=200; 55%) had moderate score treatment compliance and 14.5% had low scored and only 10% scored high. These are presented in figure 2

Table (2): Relationship between parental attitudes and quality of life among families

Parameters		Value	Approximate T ^b	P.Value
Interval by Interval	Pearson's R	.482	7.751	.000 ^c

An analysis of variance (ANOVA) was conducted to examine statistical differences in parental attitudes across various demographic variables in the 200 participants. The findings indicate that father's age ($F = 5.938$, $p = 0.003$), type of family ($F = 20.853$, $p < 0.001$), and mother's level of education ($F = 11.076$, $p < 0.001$) showed a statistically significant differences among the different levels of parental attitudes, with mother's education and family type being highly significant predictors.

Table (3): Statistical Differences in Parental Attitudes by Demographic Variables

Variable	Sum of Squares (Between)	df	Mean Square (Between)	F	Sig. (p-value)	Significance
Mother's Age	0.006	2	0.003	0.041	0.960	Not Significant
Father's Age	0.821	2	0.410	5.938	0.003	Significant
Type of Family	1.376	1	1.376	20.853	0.000	Highly Significant
Number of Children	0.431	2	0.216	3.032	0.050	Not Significant
Mother's Education	3.206	5	0.641	11.076	0.000	Highly Significant
Father's Education	0.525	4	0.131	1.841	0.123	Not Significant
Mother's Occupation	0.234	1	0.234	3.261	0.072	Not Significant
Father's Occupation	0.236	1	0.236	3.296	0.071	Not Significant
Monthly Income	0.265	2	0.133	1.845	0.161	Not Significant
Residence	0.425	4	0.131	1.841	0.113	Not Significant

The number of children showed a marginally significant effect. In contrast, mother's age, father's education, mother's occupation, father's occupation, monthly income, number of children and residence did not show statistically significant effects on parental attitudes, as their p-values exceeded the conventional threshold of 0.05.

Table (4): Statistical Differences in Treatment Compliance by Demographic Variables (N = 200)

Demographic Variable	Sum of Squares	df	Mean Square	F	Sig. (p-value)	Significance
Mother age	0.521	2	0.261	1.102	0.334	Not Significant
Father age	1.734	2	0.867	3.556	0.031*	Significant

Demographic Variable	Sum of Squares	df	Mean Square	F	Sig. (p-value)	Significance
Type of family	2.215	1	2.215	8.904	0.003*	Highly Significant
Number of children	0.742	2	0.371	1.942	0.146	No Significant
Mother education	3.680	5	0.736	4.112	0.001*	Highly Significant
Father education	0.614	4	0.153	0.789	0.533	Not Significant
Mother occupation	0.302	1	0.302	1.262	0.263	Not Significant
Father occupation	0.494	1	0.494	2.213	0.138	No Significant
Monthly income	1.864	2	0.932	4.004	0.020	Significant

An analysis of variance (ANOVA) was conducted to examine statistical differences in treatment compliance across various demographic variables in the 200 participants. The findings indicate that father's age ($p = 0.031$), type of family ($p = 0.003$), mother's level of education ($p = 0.001$) and monthly income ($p = 0.020$) (showed a statistically significant differences among the different levels of treatment compliance.

Mother age, the number of children, Father Education, Mother Education and Parents occupation did not show statistically significant effects on treatment compliance, as their p-values exceeded the conventional threshold of 0.05.

DISCUSSION

Parents' attitudes toward their children with epilepsy are an important factor influencing treatment compliance and the quality of care provided. These attitudes reflect their personal and social beliefs and experiences, and include their knowledge and perceptions about epilepsy and its treatment, which are shaped by education, social interactions, direct experiences, media exposure, and cultural and religious beliefs [14].

The study results showed that parents' attitudes toward their children with epilepsy were at an average level (59%), followed by positive attitudes and then negative attitudes. This result indicates that the majority of parents have ambivalent or moderate attitudes toward epilepsy, with neither positive nor negative attitudes predominating. This finding is consistent with previous studies, which found that parents' attitudes tended to be moderate, with a significant percentage of families still holding negative perceptions related to social stigma and fear for the child's future [15]. The results indicate that parents need psychological and cognitive support to foster positive attitudes and reduce fears [16].

The results of the current study showed that the majority of parents of children with epilepsy had an average level of treatment compliance (55%), followed by a high level of treatment compliance (42.5%), and a low level of treatment compliance (2.5%). These findings are consistent with the findings of Mohammed et al. (2022), who reported that more than half (54.1%) of children with epilepsy were adherent to their anti-seizure medications. This finding may be due to the important role of parents in administering medications, monitoring treatment, and ensuring regular follow-up, while parental knowledge and positive attitudes toward epilepsy may contribute to better treatment compliance [17].

The study results indicate a moderate, statistically significant positive relationship ($r = 0.482$, $p = 0.007$) between parental attitudes and treatment compliance among family's children with epilepsy. This finding is consistent with the findings of Mohammed et al. (2022), who reported that a positive caregiver attitude toward epilepsy was significantly associated with better adherence to anti-seizure medications. This may be attributed to the fact that parents with positive attitudes toward epilepsy are more likely to understand the importance of regular treatment, follow medical recommendations, administer medications consistently, and support their child's treatment regimen, which can contribute to improved treatment compliance [18].

The results of the current study revealed significant differences in parents' attitudes toward their children with epilepsy according to the father's age group ($p = 0.003$). This result is consistent with Kaddumukasa et al. (2018), as the older the fathers are, the more likely they are to adopt more positive and accommodating attitudes, as a result of their accumulated life and social experiences [19]. This is due to their psychological and social maturity and life experiences, which make them more able to deal with the challenges of epilepsy and accept the child positively [20].

Regarding family type, the results showed statistically significant differences at the level of ($p = 0.050$). Extended families demonstrate positive attitudes due to social support, but they may be influenced by cultural stigma

around epilepsy. Nuclear families, on the other hand, tend to make more independent and consistent treatment decisions for their child. [21].

Regarding place of residence, the results did not show statistically significant differences ($p = 0.113$). This result may be consistent with the findings of Chidambar et al. (2025), the results showed that parents' attitudes were not influenced by place of residence, but rather by factors such as health education and experience with the disease. The spread of media and communication tools may have contributed to reducing urban-rural differences in knowledge and attitudes towards epilepsy [22].

Maternal education level clearly influenced parental attitudes, with educated mothers being more positive toward their children with epilepsy. This finding is consistent with a study by Fehintola et al. (2019), this is attributed to increased awareness and understanding of the disease and easier access to health information. Previous studies have confirmed that education promotes positive attitudes and reduces stigma, highlighting the importance of health education for mothers with low education [23].

The results of the current study showed no statistically significant relationship between maternal age and treatment compliance ($p = 0.334$), indicating that maternal age may not significantly influence adherence to treatment. In contrast, a statistically significant relationship was found between paternal age and treatment compliance ($p = 0.031$), which may be related to differences in parental experience and involvement in managing the child's treatment [24]. Regarding family type, the results revealed a highly statistically significant relationship with treatment compliance ($p = 0.003$). This may be explained by the greater support available within some family structures, which can help parents maintain medication schedules and support regular treatment [25].

The study results showed a statistically significant relationship between maternal education and treatment compliance ($p = 0.001$). This may indicate that mothers with higher education have better health awareness and understanding of the importance of regular treatment. In contrast, no significant relationship was found between paternal education and treatment compliance ($p = 0.533$) [26].

The results showed no statistically significant relationship between the number of children and treatment compliance ($p = 0.146$). Similarly, no significant relationships were found between maternal occupation ($p = 0.263$) and paternal occupation ($p = 0.138$) and treatment compliance, suggesting that these factors may have less influence on adherence than family support and health awareness [27].

Finally, the study showed a statistically significant relationship between monthly income and treatment compliance ($p = 0.020$). This may indicate that higher income facilitates access to medications and healthcare services and reduces financial difficulties that could interfere with regular treatment [28].

Study Limitation

Lack of national studied underlying of study.

CONCLUSION

There is a link between demographic characteristics and treatment compliance among children with epilepsy, highlighting the importance of considering family and socioeconomic factors. Improving parental awareness, family support, and access to treatment may contribute to better treatment compliance and more effective management of the child's condition.

REFERENCES

1. World Health Organization. (2024). Epilepsy. World Health Organization.
2. Cherian, A. A., Sreedharan, M., Sreenivasan, P., Iype, M., Ahamed, S., Habeeb, A., Raveendran, R., & Lal, R. (2024). Unraveling antiseizure medication adherence in paediatric epilepsy: Implications for clinical practice and patient care. *Epilepsy & Behavior*, 161, 110089.
3. Afsharkhas, L., Zamani, S., Tavasoli, A., Zamani, B., & Talebi, A. (2022). The prevalence and major determinants of non-compliance with anti-seizure medication among children. *Current Journal of Neurology*, 21(1), 23–28.
4. Zhang, L., Li, P., He, J., Qian, J., & Liu, Y. (2024). Promoting medication compliance in epileptic children: A cross-sectional survey. *BMC Pediatrics*, 24, 583.
5. Uhl, S., Konnyu, K., Wilson, R., Adam, G., Robinson, K. A., & Viswanathan, M. (2023). Parent perceptions and decision making about treatments for epilepsy: A qualitative evidence synthesis. *BMJ Open*, 13(1), e066872.
6. AlQaisi, S. A., Lami, F. H., & Ali, E. M. (2024). Parental knowledge, attitudes, and practice toward their epileptic children, Baghdad, Iraq 2022. *Journal of the Faculty of Medicine Baghdad*, 65(4), 341–347.
7. Alharthi, A. S., Alzahrani, S. A., Alharbi, A. A., Al Thobaiti, L. Y., Alghamdi, Y. S., Al Shumrani, K. M., Alghamdi, M. A., Alghamdi, N. K., Alzahrani, S. S., Alharbi, S. A., Alghamdi, A. A., & Alghamdi, K. S. (2023). Parents'

- knowledge, awareness, and attitude toward children with epilepsy in the Al Baha region, Saudi Arabia: A cross-sectional study. *Cureus*, 15(10), e48057.
8. Godara, K., Phakey, N., Garg, D., Sharma, S., & Das, R. R. (2024). Interventions to improve medication adherence in children with epilepsy: A systematic review. *Cureus*, 16(2), e54680.
 9. Leviton, A., Patel, A. D., & Loddenkemper, T. (2023). Self-management education for children with epilepsy and their caregivers: A scoping review. *Epilepsy & Behavior*, 144, 109232.
 10. Adisu, M. A., Zemariam, A. B., Derso, Y. A., Wereta, B. M., Kassa, M. A., Kitaw, T. A., & Habtie, T. E. (2025). Global patterns and predictors of anti-seizure medication adherence in pediatric epilepsy: A systematic review and meta-analysis. *Epilepsy & Behavior*, 172, 110544.
 11. Taylan, S., Turan, F. D., & Özkan, İ. (2026). The effect of educational interventions on drug adherence in children with epilepsy and parents: Systematic review and meta-analysis. *Journal of Pediatric Nursing*, 89, 119–128.
 12. Aljandeel, G. (2021). Awareness and attitude about epilepsy among Iraqi epileptic's families. *Sensibilisation et attitude à l'égard de l'épilepsie parmi les familles épileptiques irakiennes. African & Middle East Epilepsy Journal*, 10(2).
 13. Morisky, D. E., Ang, A., Krousel-Wood, M., & Ward, H. J. (2008). Retracted: predictive validity of a medication adherence measure in an outpatient setting. *The journal of clinical hypertension*, 10(5), 348
 14. Guz, E., Brodowicz-Krół, M., Kulbaka, E., Bartoszek-Popko, M., & Lutomski, P. (2020). Parents' attitudes towards a difficult situation resulting from the chronic disease of their child. *Annals of Agricultural and Environmental Medicine*, 27(3), 476-480.
 15. Orlandi, N., d'Orsi, G., Pauletto, G., Nilo, A., Sicurella, L., Pescini, F., ... & BrivaCluster study group. (2023). A retrospective multicentric study on the effectiveness of intravenous brivaracetam in seizure clusters: data from the Italian experience. *Seizure: European Journal of Epilepsy*, 108, 72-80.
 16. Pokharel, R., Poudel, P., & Lama, S. (2021). Quality of life among caregivers of children with epilepsy: A cross-sectional study at Eastern Nepal. *Epilepsia open*, 6(1), 120-126.
 17. Yang, C., Deng, W., Zeng, L., Tao, Q., & Zhang, L. (2025). Predicting medication adherence among children with epilepsy: Application of the protection motivation theory. *Epilepsy & Behavior*, 162, 110153. <https://doi.org/10.1016/j.yebeh.2024.110153>
 18. Mohammed, H., Lemnuro, K., Mekonnen, T., & Melaku, T. (2022). Adherence to anti-seizure medications and associated factors among children with epilepsy at tertiary hospital in Southwest Ethiopia: A cross-sectional study. *BMC Neurology*, 22, 310.
 19. Kaddumukasa, M., Kaddumukasa, M. N., Buwembo, W., Munabi, I. G., Blixen, C., Lhatoo, S., ... & Sajatovic, M. (2018). Epilepsy misconceptions and stigma reduction interventions in sub-Saharan Africa, a systematic review. *Epilepsy & Behavior*, 85, 21-27.
 20. Celik, M., Altinel Acoglu, E., Aydin, B., Isiyel, E., & Yalcin, S. S. (2024). Caring under pressure: investigating parental attitudes in Mother–Child chronic illness dynamics. *Children*, 11(11), 1348.
 21. Rani, A., & Thomas, P. T. (2019). Parental knowledge, attitude, and perception about epilepsy and sociocultural barriers to treatment. *Journal of epilepsy research*, 9(1), 65.
 22. Chidambar, R., Shanbhag, S., Avabratha, K. S., & Haladi, S. P. (2025). Knowledge, Attitude, and Practices among Parents of Children with Seizures. *Archives of Medicine and Health Sciences*, 10-4103.
 23. Fehintola, F. O., Olowookere, S. A., Adegbenro, C. A., Afolabi, T. O., Oladapo, V., Oladimeji, A. O., ... & Olajide, A. A. (2019). Knowledge of and attitude towards epilepsy among women in Ile-Ife, Nigeria. *Sudan Journal of Medical Sciences*, 14(1), 31-44.
 24. Abdalla, A. A., et al. (2026). Adherence to anti-seizure medications among pediatric epilepsy patients during the Sudan armed conflict. *BMC Neurology*.
 25. Yang, C., Huang, R., Tao, Q., Hao, Z., Zhao, L., & Zhang, L. (2025). Pathways linking parental social support and decision-making participation to medication adherence in children with epilepsy: The moderating role of parental anxiety. *International Journal of Pediatrics*, 2025, 7159579.
 26. Adisu, M. A., Zemariam, A. B., Derso, Y. A., Wereta, B. M., Kassa, M. A., Kitaw, T. A., & Habtie, T. E. (2025). Global patterns and predictors of anti-seizure medication adherence in pediatric epilepsy: A systematic review and meta-analysis. *Epilepsy & Behavior*, 172, 110544.
 27. Horne, R., et al. (2025). Barriers and enablers to antiseizure medication adherence in children with epilepsy: A systematic review using meta-ethnography. *Epilepsy & Behavior*.
 28. Zhang, L., Li, P., He, J., Qian, J., & Liu, Y. (2024). Promoting medication compliance in epileptic children: A cross-sectional survey. *BMC Pediatrics*, 24, 583.