Research Article

The Perception of Family Function by Adolescents with Epilepsy in a Rural Nigerian Community

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1. Introduction

Epilepsy affects 70 million persons worldwide and a high age specific incidence is associated with the adolescent population [1, 2]. The worldwide mean prevalence of epilepsy is 8.9/1000 [3]. Epilepsy prevalence rates of 4.3–26.1/1000 have been reported from several child and adolescent populations globally [4]. A significant proportion of those with the disease live in low and middle income countries (LMICs) where there is limited access to effective treatment [1, 2]. Poor outcomes of epilepsy such as stigma, depression, poor quality of life, and even death have been associated with epilepsy in the adolescent [5–11]. Ignorance, poor sociocultural epilepsy perspectives, weak health systems, epilepsy treatment gap, weak social support system, and family dysfunction are some factors that are contributory to these poor epilepsy outcomes [1–3, 5–12].

Studies have shown that adolescent perspectives on epilepsy have significant impact on the outcomes of the disease [7–10, 13, 14]. Most of these studies have been on awareness and knowledge of epilepsy and attitudes towards and the Health Related Quality of Life (HRQOL) in adolescents with epilepsy (AWE). Reports from these studies have indicated poor academic achievement, a comparatively lower HRQOL than that of the general population, lowered self-esteem, depression, poor attitudes, and a limited knowledge of epilepsy among AWE [7–10, 13, 14]. The identification of these perspectives facilitates the development and institution of interventions that could ensure adequate access to needed therapy.

In most of the LMICs statutory care or support for adolescents is lacking in health and social systems resulting in an almost total dependence on family settings for care [15].
In the African region weaknesses in health systems, stigma, and communal isolation associated with epilepsy entail care of persons with epilepsy primarily to families and in family settings [2]. Consequently the effective functioning of the family in the region would have implications on the outcome of chronic diseases such as epilepsy.

Family functioning has been defined as the way in which family members communicate, relate, and maintain relationships among each other, as well as the way they make decisions to solve problems [16]. Satisfactory family functioning has been associated with positive outcomes in epilepsy [12, 17]. Also factors that disrupt family functioning such as low socioeconomic status, poor epilepsy awareness, stress, and parental psychopathologies have been associated with poorer epilepsy outcomes [1–3, 8, 17]. Thus outcomes in AWE in LMICs could be significantly influenced by the quality of family functioning.

Overall, the adolescent period provides opportunities and vulnerabilities with its wellbeing hinging on the development of help seeking behavior of the adolescent [15]. Perception of others and helping institutions, as helpful and trustworthy, has been identified as one of the factors that influence the help seeking behavior of adolescents [15]. Therefore in settings such as ours, where family support is the main source of care for adolescents with epilepsy, understanding adolescents' perception of this support and other family functions could have significant impact on epilepsy outcomes. Reports on AWE perception of family functioning from Nigeria are scarce. Adewuya et al. [7] reported perception of high family functioning among a majority of AWE in an urban Nigerian setting. To provide more insight on the perception of family functioning by AWE, and its impact on epilepsy outcomes, more studies are required.

The objective of the study was to assess perception of family function by AWE in a rural Nigerian community.

### 2. Materials and Methods

The study was conducted in Katari community of Kachia Local Government Area (LGA) in Kaduna State, northwest Nigeria. The community was randomly selected from the 22 communities that make up the LGA. The estimated population of the community is 6,572 [18]. Most of the inhabitants are small scale farmers and traders. Health care in the community is provided mainly by traditional healers, patent medicine shops, and a primary healthcare centre in the community. The nearest General Hospital to the community is 30 Km away and serves as a referral centre to Katari's PHC.

Adolescents in the community were defined as regular inhabitants of the community whose age ranged from 10 to 19 years [19]. Age was determined by evidence of birth records or corroborated oral evidence. AWE were identified via a house-to-house epilepsy survey in the community. For epidemiological surveys, and in this study, epilepsy was defined as recurrent unprovoked epileptic seizures occurring at least 24 hours apart [20, 21].

After a house-to-house survey is conducted by the authors a total of 18 adolescents were identified as having epilepsy out of a total adolescent population of 1,708 [22].

| Age group (years) | Sex | Number of AWE (%) |
|-------------------|-----|-------------------|
| 11–13             | M   | 4 (26.7)          |
|                   | F   | 0                 |
|                   |      | 4 (22.2)          |
| 14–16             | M   | 2 (13.3)          |
|                   | F   | 0                 |
|                   |      | 2 (11.1)          |
| 17–19             | M   | 9 (60)            |
|                   | F   | 3 (100)           |
|                   |      | 12 (66.7)         |
| Total             | M   | 15 (100)          |
|                   | F   | 3 (100)           |
|                   |      | 18 (100)          |

AWE: adolescents with epilepsy.

Parameters of AWE assessed included age, sex, social class, educational status, clinical features of epilepsy, current and past treatment options utilized, history of central nervous system infections, perinatal history, and assessment of intelligence using Raven's Progressive Matrix. Social class distribution was determined using the Ogunlesi et al. classification [23]. The Family APGAR tool was used in assessing perceived family function by the AWE. The tool has been validated and found to be reliable in assessing family function [24]. The Family APGAR Score uses the family's member perception of satisfaction to assess 5 dimensions of family functioning, namely, Adaptability, Partnership, Growth, Affection, and Resolve [24]. Each parameter is assessed on a 3-point scale ranging from 0 (hardly ever) to 2 (almost always). The final grading is based on the cumulative score and is graded as 0–3 (highly dysfunctional family), 4–6 (moderately dysfunctional family), and 7–10 (highly functional family) [24].

Ethical approval for the study was obtained from the Research Ethics Committee of the FNPH Kaduna. Informed consent was obtained from the community and household heads in Katari community and the AWE who were 18 years old or older while assent was obtained from those younger. A month's dose of the AED phenobarbitone was provided to all the AWE who needed to be on AED therapy but were not and they were referred to the Child and Adolescent Mental Health (CAMH) Unit of the Federal Neuropsychiatric Hospital (FNPH), Kaduna, for further management. The CAMH Unit has adequate facilities for the management of epilepsy. Furthermore, the AWE and their families were introduced to a nongovernmental organization that supports the management of persons with epilepsy and their families.

Data was analyzed using Epi Info 3.5.3 statistical package. Chi-square test, with Yates’ correction where applicable, was used in determining the relationship between the characteristics of the AWE and their perception of family function. A P value less than 0.05 was regarded as significant.

### 3. Results

Adolescents (n = 1708) constituted 26% of the community’s population out of which 18 (10.5/1000) had epilepsy. The age range of the subjects was 11–19 years (mean 16.7 ± 2.6 years) with a male preponderance (15, 83.3%) (Table 1). All 3 females were married but 2 were currently separated from their husbands as a result of inability of their spouses to cope with their epilepsy. All (18, 100%) were in the lower (classes IV and V) social classes. Also all had had a primary education, 4
(22%) had completed a secondary education, and 4 (22%) had experienced school rejection as a result of having epilepsy.

All the AWE had active epilepsy with generalized seizures occurring at least once weekly and monthly in 10 and 8 AWE, respectively. The seizures were tonic-clonic (12, 66.7%), tonic (5, 27.8%), and absence (1, 0.5%), respectively. All were currently on traditional herbal medication, all three stopped subsequent follow-up visits and AED treatment due to financial constraints. The family was the only source of care and support for the AWE. This role, as well as limited health and social support services for persons with epilepsy, has been reported severally from low and middle income countries (LMICs) where the burden of epilepsy is high [2].

Age was the only characteristic of the AWE that was significantly associated with perceived family dysfunction in this study. The likelihood of being more critical of relationships and having lofty expectations which increases with age could explain the significant dysfunctional appraisal by the older adolescents in the study. This could further explain the poor scores associated with the Adaptability, Growth,
Table 2: Distribution of optimal score (2, almost always) in the Family APGAR [11] Scores of the AWE.

| Family APGAR parameter [24] | Family APGAR interpretation [24] | Number of AWE indicating optimal score (%) |
|-----------------------------|----------------------------------|------------------------------------------|
| Adaptability                | I can turn to my family for help when something is troubling me | 13 (72.2) |
| Partnership                 | I am satisfied with the way my family shares my problem with me | 4 (22.2) |
| Growth                      | I am satisfied that my family accepts and supports my wishes to take on new activities | 2 (11.1) |
| Affection                   | I am satisfied with the way my family expresses affection and regard to my emotions, anger, sorrow, and love | 3 (16.7) |
| Resolve                     | I am satisfied with the way my family and I share time together | 10 (55.6) |

Table 3: Relationship between some variables of the AWE and their perception of family function (Family APGAR).

| AWE variables | Number of AWE Functional | Family APGAR | Dysfunctional | $P$ value |
|---------------|--------------------------|--------------|---------------|-----------|
| Age (years)   | $n = 18$ (%)             |              |               |           |
| >14           | 14 (77.8)                | 0            | 14 (93.3)     | 0.01*     |
| <14           | 4 (22.2)                 | 3 (100)      | 1 (6.7)       |           |
| Sex           |                         |              |               |           |
| Male          | 15 (83.3)                | 3 (100)      | 12 (80)       | 0.40*     |
| Female        | 3 (16.7)                 | 0            | 3 (20)        |           |
| Seizure frequency |                   |              |               |           |
| Weekly        | 10 (55.6)                | 3 (100)      | 7 (46.7)      | 0.29*     |
| Monthly       | 8 (44.4)                 | 0            | 8 (53.3)      |           |
| School rejection |                   |              |               |           |
| Yes           | 4 (22.2)                 | 2 (66.7)     | 2 (13.3)      | 0.21*     |
| No            | 14 (77.8)                | 1 (33.3)     | 13 (86.7)     |           |
| 2nd school completion |             |              |               |           |
| Yes           | 4 (22.2)                 | 0            | 4 (26.7)      | 0.80*     |
| No            | 14 (77.8)                | 3 (100)      | 11 (73.3)     |           |
| Family history (epilepsy) |             |              |               |           |
| Positive      | 8 (44.4)                 | 2 (66.7)     | 6 (40)        | 0.83*     |
| Negative      | 10 (55.6)                | 1 (33.3)     | 9 (60)        |           |

AWE: adolescents with epilepsy; * with Yates’ correction.

and Affection parameters of the Family APGAR. The other sociodemographic variables of the AWE did not significantly influence the perception of family function. The small sample size of the AWE and the relative homogeneity of their existing circumstances could have been accountable. Also the characteristics of epilepsy did not significantly influence the perceptions of the AWE. Epilepsy variables, particularly its severity, have been observed to correlate with greater perceived impact on the family unit [29]. The possibility of severe forms of epilepsy fostering more family attention in those affected could have had a positive influence on the perceptions of the AWE. This could have countered the negative perceptions of family function that could have arisen from the severity of the disease. Thornton et al. [12] also reported the nonsignificance of epilepsy variables on family function even though they acknowledged that the number of those with intractable epilepsy in their study was very small.

Generally the perspectives of adolescents on issues are vital to their coping skills and health or help seeking behavior [15]. These perspectives could also influence development of abnormal behavior, psychopathology, substance abuse, and an increased risk of mortality [15]. Family function has been demonstrated to be very important in predicting adaptive, cognitive, and behavioral function in childhood epilepsy [12]. Poor academic achievement, impaired HRQoL, behavioral abnormalities, and an increased burden of disease are adverse epilepsy outcomes that have been associated with family dysfunction [8, 12, 30]. Consequently the perception and reality of family dysfunction among AWE could have grave implications for epilepsy outcomes particularly in regions
where these outcomes are already grim. Dissemination of appropriate epilepsy information to the community and persons with epilepsy, improved access to treatment, provision of social support for affected families, and protection of the rights of persons with epilepsy could all strengthen family functioning and help improve its perception by AWE with desirable outcomes.

5. Limitations

The perceptions in this study were those of AWE in a rural community and of a predominantly low socioeconomic status; the perceptions of AWE in urban settings and in upper socioeconomic settings which have increased access to epilepsy care and information could be different. Also the role of family variables such as family size and presence of other chronic illnesses was not included in our study. However, majority of persons with epilepsy in LMICs live in similar settings as the AWE in this study.

6. Conclusion

The perception of living in a dysfunctional family setting was indicated by most of the AWE in a rural Nigerian community. Weak perception of satisfaction with family function was mainly with Growth (satisfaction with family’s acceptance and support towards my taking on new activities) and Affection (satisfaction with family’s expression of affection and regards towards my feelings) parameters of the Family APGAR assessment tool while the strongest was with Adaptability (satisfaction with turning to my family whenever troubled). The study highlights the need to address the role of the family in the provision of comprehensive epilepsy care particularly in regions with poor epilepsy outcomes.

Conflict of Interests

The authors declare that there is no conflict of interests regarding the publication of this paper.

References

[1] J. Katchanov and G. L. Birbeck, “Epilepsy care guidelines for low- and middle- income countries: from WHO mental health GAP to national programs,” BMC Medicine, vol. 10, article 107, 2012.
[2] “Epilepsy in the World Health Organization African Region: Bridging the Gap,” http://www.who.int/mental_health/manage ment/epilepsy_in_African-region.pdf.
[3] J. H. Chin, “Epilepsy treatment in sub-Saharan Africa: closing the gap,” African Health Sciences, vol. 12, no. 2, pp. 186–192, 2012.
[4] M. Topbaş, Ş. Özyüni, M. F. Sönmez et al., “Epilepsy prevalence in the 0–17 age group in Trabzon, Turkey,” Iranian Journal of Pediatrics, vol. 22, no. 3, pp. 344–350, 2012.
[5] R. Baskind and G. L. Birbeck, “Epilepsy-associated stigma in sub-Saharan Africa: the social landscape of a disease,” Epilepsy & Behavior, vol. 7, no. 1, pp. 68–73, 2005.
[6] L. C. Ong, “Anxiety and depression in children with epilepsy,” Neurology Asia, vol. 18, no. 1, pp. 39–41, 2013.
[7] A. O. Adewuya, S. B. A. Oseni, and J. A. O. Okeniyi, “School performance of Nigerian adolescents with epilepsy,” Epilepsia, vol. 47, no. 2, pp. 415–420, 2006.
[8] I. A. Lagunju, O. Akinyinkin, A. Orimadegun et al., “Health-related quality of life of Nigerian children with epilepsy,” African Journal of Neurological Sciences, vol. 28, no. 1, 2009.
[9] C. A. Gbiri and A. D. Akingbogunbe, “Determinants of quality of life in Nigerian children and adolescents with epilepsy: a hospital-based study,” Asia Pacific Disability Rehabilitation Journal, vol. 22, no. 3, pp. 89–96, 2011.
[10] D. Stevanovic, I. Tadic, and T. Novakovic, “Health-related quality of life in children and adolescents with epilepsy: a systematic review,” in Epilepsy in Children—Clinical and Social Aspects, Z. P. Gadze, Ed., pp. 162–182, InTech, Rijeka, Croatia, 2011.
[11] S. D. Lhatoo and J. W. A. S. Sander, “Cause-specific mortality in epilepsy,” Epilepsia, vol. 46, no. 11, pp. 36–39, 2005.
[12] N. Thornton, L. Hamiwka, E. Sherman, E. Tse, M. Blackman, and E. Wirrell, “Family function in cognitively normal children with epilepsy: impact on competence and problem behaviors,” Epilepsy and Behavior, vol. 12, no. 1, pp. 90–95, 2008.
[13] G. A. Baker, S. Spector, Y. McGrath, and H. Soteriou, “Impact of epilepsy in adolescence: a UK controlled study,” Epilepsy & Behavior, vol. 6, no. 4, pp. 556–562, 2005.
[14] C. K. Frizzell, A. M. Connolly, E. Beavis, J. A. Lawson, and A. M. Bye, “Personalised epilepsy education intervention for adolescents and impact on knowledge acquisition and psychosocial function,” Journal of Paediatrics and Child Health, vol. 47, no. 5, pp. 271–275, 2011.
[15] G. Barker, Adolescents, Social Support and Help-Seeking Behaviour: An International Literature Review and Programme Consultation with Recommendations for Action, World Health Organization, Geneva, Switzerland, 2007, http://whqlibdoc.who.int/publications/2007/9789241595711_eng.pdf.
[16] A. Pujadas Botey and J. C. Kulig, “Family functioning following wildfires: recovering from the 2011 slave lake fires,” Journal of Child and Family Studies, vol. 23, no. 8, pp. 1471–1483, 2014.
[17] M. A. Ferro, C. S. Camfield, S. D. Levin et al., “Trajectories of health-related quality of life in children with epilepsy: a cohort study,” Epilepsia, vol. 54, no. 11, pp. 1889–1897, 2013.
[18] National Population Commission, Kaduna, Kaduna, Nigeria, 2012.
[19] State of World Population, “The Promise of Equality: Gender Equity, Reproductive Health and the Millennium Development Goals,” United Nations Population Fund (UNFPA), New York, NY, USA, 2005, http://www.unfpa.org/swp/2005/pdf/en_ swp05.pdf.
[20] Commission on Epidemiology and Prognosis of the Internation League Against Epilepsy, “Guidelines for epidemiologic studies on epilepsy,” Epilepsia, vol. 34, no. 4, pp. 592–596, 1993.
[21] R. S. Fisher, C. Acevedo, A. Arzimanoglou et al., “ILAE official report: a practical clinical definition of epilepsy,” Epilepsia, vol. 55, no. 4, pp. 475–482, 2014.
[22] E. E. Eseigbe, T. L. Sheikh, A. Aderinoye et al., “Factors associated with treatment gap in children and adolescents with epilepsy in a rural Nigerian community,” Nigerian Journal of Paediatrics, vol. 41, no. 1, pp. 22–27, 2014.
[23] T. A. Ogunlesi, I. O. F. Dedeko, and O. T. Kuponiyi, “Socioeconomic classification of children attending specialist paediatric centres in Ogun State, Nigeria,” The Nigerian Medical Practitioner, vol. 54, no. 1, pp. 21–25, 2008.
[24] G. Smilkstein, “The family APGAR: a proposal for a family function test and its use by physicians,” The Journal of Family Practice, vol. 6, no. 6, pp. 1231–1239, 1978.
[25] J. K. Austin, “Childhood epilepsy: child adaptation and family resources,” Journal of Child and Adolescent Psychiatric and Mental Health Nursing, vol. 1, no. 1, pp. 18–24, 1988.
[26] E. E. Eseigbe, T. L. Sheikh, and F. T. Nuhu, “Childhood epilepsy in a tropical child psychiatric unit: challenges of providing care in a resource-constrained environment,” Annals of African Medicine, vol. 12, no. 4, pp. 236–242, 2013.
[27] F. T. Nuhu, A. J. Yusuf, A. Akinbiyi et al., “The burden experienced by family caregivers of patients with epilepsy attending the government psychiatric hospital, Kaduna, Nigeria,” The Pan African Medical Journal, vol. 5, article 16, 2010.
[28] F. T. Nuhu, J. O. Fawole, O. I. Babalola, O. O. Ayilara, and Z. T. Sulaiman, “Social consequences of epilepsy: a study of 231 Nigerian patients,” Annals of African Medicine, vol. 9, no. 3, pp. 170–175, 2010.
[29] C. Camfield, L. Breau, and P. Camfield, “Impact of pediatric epilepsy on the family: a new scale for clinical and research use,” Epilepsia, vol. 42, no. 1, pp. 104–112, 2001.
[30] D. W. Dunn, “Neuropsychiatric aspects of epilepsy in children,” Epilepsy & Behavior, vol. 4, no. 2, pp. 101–106, 2003.