

# Epilepsy Care In Kenya: Gaps and Opportunities from Targeted Survey of Health Workers

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**Introduction:** Epilepsy affects 1 to 2% of the world's population with low- and middle-income countries bearing the greatest burden of the disease. Kenya has reported 4% prevalence in rural areas. The epilepsy treatment gap in Sub-Saharan Africa is estimated between 75 to 90%, compared to less than 10% in high-income countries<sup>1</sup>. The Addis Clinic, a nonprofit organization, uses telemedicine technology to address this gap by connecting frontline health workers (FWWs) in rural Kenya with specialist physicians located globally. We leveraged The Addis Clinic's platform and network of FWWs in Kenya to identify factors contributing to epilepsy treatment gaps, assess resources, and design interventions to address any reported gaps and challenges.

**Objective:** Investigate resources, current practices, training, challenges, and utilization of national guidelines by health care workers in the daily management of seizures and epilepsy amongst patients presenting to health care facilities in Kenya.

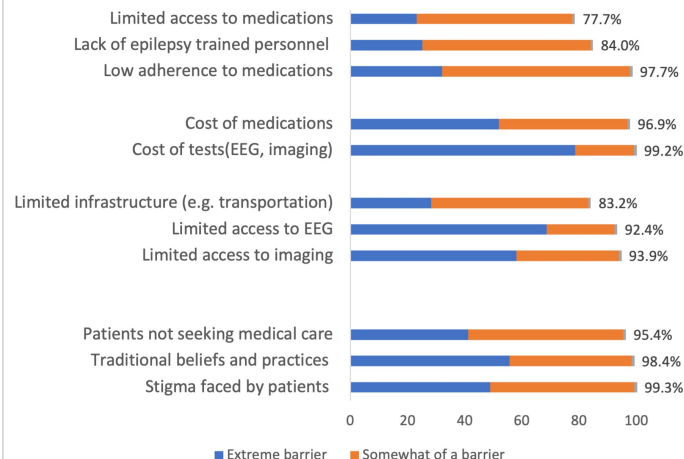
**Methods:** We developed a targeted survey aimed to assess epilepsy care observed by FWWs of The Addis Clinic network and Moi Teaching and Referral Hospital. The survey examined six domains: (1) demographics and practice type, (2) current understanding of epilepsy, (3) epilepsy training and level of confidence, (4) utilization of Kenya National Guidelines for the Management of Epilepsy (KNGME 2016)<sup>3</sup>, (5) resources and barriers for epilepsy care, and (6) use of telemedicine. Survey responses were collated using an online survey. Descriptive statistics and generalized linear models were used for survey analysis.

## Results:

### Demographics and Respondents Characteristics

- 132 respondents, 61.4% males , 38.6% as females
- 96.2% of respondents in the 20-39 age group
- 62 clinical officers (47%), 56 nurses (42%), 8 medical doctors (6%) and 6 senior clinical officers (5%)
- Region of practice represented all provinces: Nyanza (42%), Rift Valley (20.5%), Eastern (12.1%), Nairobi (11.4%), Western (8.3%), Central (3.0%) and coastal (2.3%)
- 59.8% had practiced for 1-4 years, only 5.3% practices less than 1 year
- Most work at level 2, 3 or 4 health care centers, 31.8%, 39.4%, 39.4% respectively
- 97.7% have witnessed a seizure
- 92.4% know someone with epilepsy
- 58.8% see more than 20 patient a day, 32.1% see 11 to 20 patients, 9.1% see 1 to 10 patients per day
- 96.1% treated patients with epilepsy in the past 6 months, 61.5 % had seen 1 to 10 patients with epilepsy, 34.6% had seen more than 10 in the past 6 months

### Barriers to Epilepsy Care



### Knowledge practices and preceptions among respondents (N=132)

Definition of epilepsy	Two or more unprovoked seizures (old definition)	70.50%
	One seizure with risk factors for seizures (new definition)	22.70%
Formal epilepsy training	Prior training in epilepsy/seizure management	59.5%
	Aware of Kenya National Guidelines for the Management of Epilepsy	76.5%
Epilepsy Preceptions - Epilepsy is		People in my community generally believe:
I believe:		
(a) Brain disease	79%	33%
(b) Intellectual disability	31%	24%
(c) Psychiatric disorder	27%	30%
(d) Madness	2%	30%
(e) Spirit possession	0%	74%
Confidence in my ability	Very confident/Somewhat confident	Not confident at all
(a) Evaluating seizures	47%/50%	2%
(b) Diagnosing epilepsy	39%/57%	4%
(c) Starting and long-term treatment	41%/51%	8%
(d) Instructing family of seizure first aid	70/27%	2%

## References

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## Discussion

210 health care workers contacted, 132 responded, 67% response rate. Medical doctors (MD), clinical officers (COs) and nurses who comprise the main health care work force in Kenya, were all represented. We did not observe any statistically significant associations between healthcare workers' individual characteristics, health care setup and geographical region of practice.

Majority of the respondents had strong basic knowledgeable of epilepsy and confidence in management, cared for patients with epilepsy, and were aware of KNGs and. Some gaps were found, for example, while 67.9% defining epilepsy based on the longstanding definition, only 22.9 % were aware of the new definition. Great majority, approximately 95%, expressed interest in receiving additional training in epilepsy care.

There were some association between sub-groups and knowledge, for example, in comparison to other regions, FHW from the Rift Valley Province had higher odds of providing incorrect responses to questions assessing epilepsy knowledge. We hypothesize that education and research institutions in Kilifi and Eastern provinces that are focused on epilepsy care and education in these regions may have contributed to this finding and may serve as an example to follow.

The great majority of respondents reported some to extreme barriers for epilepsy care provision, with multiple contributing factors, including community's beliefs and stigma, limited access, high costs of testing, medications and limited access to specialists' consultations.

We plan to utilize findings of the survey to design interventions to target areas of gaps and utilize strengths. We welcome collaborations and open to sharing the survey as a tool for other groups to use.

## Conclusions

Health workers commonly reported awareness of the Kenya National Guidelines, experience in epilepsy care, showed basic knowledge of epilepsy, however, knowledge gaps were identified. The greatest barriers to epilepsy care reported include community beliefs, stigma, and lack of resources with regional variability. The Addis Clinic patronship and regional local leaders will utilize these findings to develop focused interventions.