

LAMOTRIGINE DISTRIBUTION IN MAHENGE REPORT

An estimate of 50 million people worldwide are affected with epilepsy; up to 80% living in low- and middle-income countries(1), and is particularly prevalent in sub-Saharan Africa (SSA) (2). The burden of Epilepsy is two or three times more common in SSA than in industrialized countries in non-tropical climate zones(3). In 2005, the Global Campaign Against Epilepsy coalition estimated the prevalence of epilepsy in Africa to be 11.29 per 1,000 population, resulting in an estimated 3.4 million affected individuals(2). This is 26% higher than the global mean prevalence of 8.93 per 1,000 population (2). In Africa, epilepsy prevalence peaks in the 20- 29-year age group(3). A study in Kenya showed that mortality in people with active convulsive epilepsy was six times higher than that of the general population (4). The Mahenge Mountains in the Ulanga district of Tanzania is an area endemic for onchocerciasis. Several epidemiological studies have shown a strong association between epilepsy and onchocerciasis. The national Onchocerciasis Control Programme (NTD) has conducted community-directed annual treatment with ivermectin (CDTI) since 1997. In 1989, a population-based door-to-door survey in this area showed an incidence of 73.3 new cases of epilepsy per 100,000 persons/years and a prevalence of epilepsy that varied between villages, from 0.51 to 3.7%. The high burden of epilepsy also was observed in our previous surveys in 2017 and 2018(5)(6) despite 20 years of ivermectin distribution. Following these massive findings, a project entitled “Multi-disciplinary Approach to Control Onchocerciasis Associated Epilepsy in the Mahenge area in Morogoro region, Tanzania” was implemented.

In 2019, collaboration between Provision Charitable Foundation (PCF) and National Institute for Medical Research, Tanga Research Centre was established. Following this, Dr. Dan Bhwana visited Canada. ROW foundation in collaboration with PCF donated Lamotrigine drugs for treating all women within reproductive age (15-49 years).

In June 2020, first shipment was successful. On 4th August 2020 at Mahenge epilepsy clinic the first two female patients aged 28 and 29 years was prescribed Lamotrigine, these had seizure episodes more than two per months. Their seizures episodes improved markedly, and they did not report any more seizures. The quality of life improved as they can go around and do their daily activities without worrying of seizure events. We decided to increase the number of persons with epilepsy (PWE) who will be using Lamotrigine. We decided also to prescribe to men who have resistance seizures to common prescribed anti-epileptic drugs in the Mahenge area (phenobarbital and Carbamazepine). All patients who were kept to the drug have attain a seizure free state date two shipments have been made and a total of 64 PWE have been kept on Lamotrigine. The detail if PWE are shown table 1.

Table 1: Number of PWE kept on Lamotrigine by site.

Site	Female	Male	Total
Mahenge epilepsy clinic	32	22	54
Rural villages (Sali and Msogezi)	7	3	10
Total	39	25	64

So far, we have not seen any person with epilepsy who had adverse drug reaction after the initiation of the medication.

Moreover, during the clinic visits, we interviewed two patients and one caretaker who benefit from the medications. They had different views regarding Lamotrigine use. They were happy to see the medication makes difference in their daily life as no more seizures have been occurred. Their quality of life has been improved significantly. They were quoted as follows:

Patient 1: Female 34 years old divorced with two children, a farmer who had longstanding history of seizures episodes. After Lamotrigine had been initiated, she could not get any more seizures episodes; her life has been improved and now she can go around and work.

Caretaker 1: 34 years old female, with one child (patient) who had an average of 6 seizures episodes per month before been kept on Lamotrigine.

“Hizi dawa zinafaa sana, anachangamka kama kawaida anafanya kazi zake, hizi dawa kwa kweli ni nzuri sana.”

“These drugs are very effective, he is active as usual and can perform his job, these drugs are really very good.”

Patient 2: A male, 24 years old not married a petty trader. He was diagnosed with epilepsy 17 years ago and on average had 5 seizure episodes per month. After been kept on Lamotrigine he has attained a seizure free state. He appreciated the donation and call for a continued donation.

“Kwasababu dawa zinanisaidia wafadhili waendeleo kutoa dawa.”

“Because medications help, the donors should continue to provide medications.”

	
<p>P1 after clinic visit</p>	<p>P2 handling of Lamotrigine drugs to District Pharmacist</p>

Challenges:

One of the challenges that we face is the fact that starter doses which we received in the last shipment have short expire date; this means we cannot initiate new patients starting from June 2021.

Recommendations

The drugs that have longer expired date should be supplied. This will reduce the number of the drugs left unconsumed.

REFERENCE

1. Ngugi AK, Bottomley C, Kleinschmidt I, Wagner RG, Kakooza-Mwesige A, Aengibise K, et al. Prevalence of active convulsive epilepsy in sub-Saharan Africa and associated risk factors: cross-sectional and case-control studies. *Lancet Neurol.* 2013 Mar;12(3):253–63.
2. Chin JH. Epilepsy treatment in sub-Saharan Africa: closing the gap. *Afr Health Sci.* 2012 Jun;12(2):186–92.
3. Paul A, Adeloye D, George-Carey R, Kolčić I, Grant L, Chan KY. An estimate of the prevalence of epilepsy in Sub-Saharan Africa: A systematic analysis. *J Glob Health.* 2012;2(2).
4. Ngugi AK, Bottomley C, Fegan G, Chengo E, Odhiambo R, Bauni E, et al. Premature mortality in active convulsive epilepsy in rural Kenya: causes and associated factors. *Neurology.* 2014 Feb;82(7):582–9.
5. Mmbando BP, Suykerbuyk P, Mnacho M, Kakorozya A, Matuja W, Hendy A, et al. High prevalence of epilepsy in two rural onchocerciasis endemic villages in the

Mahenge area, Tanzania, after 20 years of community directed treatment with ivermectin. *Infect Dis Poverty*. 2018;

6. Bhwana D, Mmbando BP, Dekker MCJ, Mnacho M, Kakorozya A, Matuja W, et al. Clinical presentation of epilepsy in six villages in an onchocerciasis endemic area in Mahenge, Tanzania. *Epileptic Disord*. 2019;21(5):425–35.