The epilepsy disease burden in onchocerciasis endemic regions in South Sudan, the effect of a community based vector control program

S. Raimon1*, T.L. Lakwo2*, W.J. Sebit3, M. Tionga3, J. N. Siewe Fodjo4, P. Alinda1, J.Y. Carter5, R Colebunders4 1Amref Health Africa, Juba, South Sudan; 2Vector Control Division, Ministry of Health, Kampala, Uganda; 3Public Health Laboratory, Ministry of Health, Juba, South Sudan; 4Global Health Institute, University of Antwerp, Antwerp, Belgium; 5Amref Health Africa Headquarters, Nairobi, Kenya

Introduction	Results	Conclusions
A high prevalence of epilepsy including nodding syndrome (NS) has been observed in onchocerciasis-endemic areas in South Sudan, a prevalence of 4.4%, and 5.1 were documented in recent	 The monthly biting rates decreased drastically by 99% immediately after the "slash and clear" intervention. Blackfly-free months were from March 2020 to June 2020, where zero flies were registered at all the three sites. 	1. The "slash and clear" method was found to be an effective, simple and cheap community-based method to reduce blackfly biting rates.
surveys conducted in Maridi and Mvolo	3 However in the second month post-intervention there	2 When repeated at least annually

2. When repeated at least annually together with a high CDTI coverage, it has the potential to considerably accelerate onchocerciasis elimination.

counties respectively, higher prevalence was observed in villages closest to the high flowing rivers with active foci of blackfly breeding

Methods

the study was conducted in 2019 in Maridi County South Sudan, River Maridi was entomologically mapped for the potential sides of blackfly breeding, and Maridi Dam was found to be the only side which favor breeding of Blackfly, community volunteers were trained on the basics of human landing catching, and slash and clear techniques, Simulium damnosum biting rates were collected before and during the 12 months following the "slash and clear" intervention using the human landing method. Blackflies were dissected to measure infectivity rates before and 12 months after the intervention

- 3. However, in the second month post-intervention, there was a spike in MBR observed in all three sites.
- 4. Twelve months after the "slash and clear" intervention, the reduction in biting rates was still at >50%.



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Local volunteers residing close to Maridi dam implemented slashing and clear at Maridi Dam by scratching the trailing vegetation off the dam spillway using locally made tools and throwing it on the river bank to dry, thereby killing the adherent fly larvae and pupae

- 5. Parity rates reduced from 13% pre- "slash and clear" (November 2019) to 5.6% post- "slash and clear" (November 2020)
- 6. After the second slash and clear in December 2020 the MBR has remained below 95% for seven (7) months



Entomologist performing dissection of blackflies

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Fly catchers at catching site, Maridi, 2019

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