

THE HEADACHE BURDEN IN A LARGE HIV POSITIVE SUB-SAHARAN AFRICAN POPULATION

Giulia Ceccardi^{1,2}, Luca Giani^{2,3}, Monica Mwazangati⁴, Derya Uluduz⁵, Tayyar Şaşmaz⁶, Victor Tamba Tolno⁴, Maureen Kamponda⁴, Giovanni Guidotti^{7,8}, Timothy Steiner^{9,10,11}, Massimo Leone^{2,7,12}

1.Neurology Unit, ASST-Cremona; 2.Grupo di Studio La SIN e i paesi in via di sviluppo dell'Africa sub-Sahariana; 3.IRCCS Istituti Clinici Scientifici Maugeri,Milano; 4.DREAM Program, Blantyre, Malawi; 5. Istanbul University, Turkey; 6. University School of Medicine, Mersin, Turkey; 7.DREAM Program, Rome; 8.Health Department, ASL Roma 1, Regione Lazio; 9. Norwegian University of Science and Technology, Trondheim, Norway; 10. University of Copenhagen, Denmark; 11. Imperial College London, UK 12. IRCCS Istituto Neurologico Carlo Besta, Milano.

OBJECTIVES: Headache is a prevalent neurologic disorder in Africa (Table 1; 1-5). In addition, in Africa there are about 27 millions HIV+ patients, and the 1-year headache prevalence among those patients is about 80.3% (6) but little is known about the burden. The headache burden is a multifaceted condition, with clinical and social factors contributing to its complexity and a tool to measure the headache burden integrating various factors is needed (7). In this study we introduced a new index, the **composite headache burden index**, to integrate *frequency, intensity, duration, analgesic use* and *number of workdays lost* to better investigate the burden of headache in a large HIV-positive population in Malawi.

Table 1

Nation	GENERAL POPULATION: age-adjusted 1-year HEADACHE PREVALENCE
Etiopia ¹	72.8%
Benin ²	72.9%
Zambia ³	85.8%
Cameroon ⁴	76.4%
Marocco ⁵	79.3%

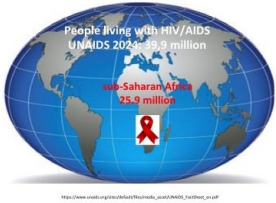
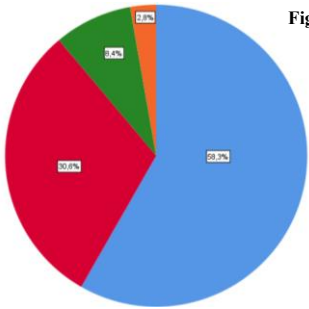


Table 2

VARIABLES	SCORES	EXAMPLE (pt 160)
frequency (days/month)	0 = 0 1-5 = 1 6-14 = 2 ≥15 = 3	15 days → 3
intensity	mild = 0 moderate = 1 severe = 2	Mild → 0
duration (in hours)	<2 = 0 2-4 = 1 5-24 = 2 ≥24 = 3	24 h → 2
use of analgesics (number/month)	0 = 0 1-4 = 1 5-14 = 2 ≥15 = 3	10/month → 2
paid workdays lost (per month)	0 = 0 1-2 = 1 3-5 = 2 ≥6 = 3	0/month → 0
COMPOSITE HEADACHE BURDEN INDEX (CHBI) 0 = 0 1 = 4-6 2 = 7-9 3 = ≥10		TOTAL= 3+0+2+2+0= 7 CHBI= 2

MATERIALS AND METHODS: The study is an extension of a previous study (6). It was conducted at the DREAM (Disease Relief through Excellent and Advanced Means) centre in Blantyre, Malawi. DREAM provides care for HIV/AIDS since 2002, it is active with 50 healthcare centres in 10 SSA countries also delivering care for non communicable diseases (NCD) including stroke and epilepsy (8). A structured questionnaire was administered by a trained interviewer to 2000 consecutive HIV-positive patients aged 7–70 years followed up for a minimum period of one year. Information about headache, demography and other data were collected (6). The **composite headache burden index (CHBI)** is derived from summing five categorised variables: frequency (days/ last month), intensity (classified in mild, moderate or severe), duration (in hours) of headache, use of analgesics (number/month) and paid workdays lost (per month),*** it has been obtained with the assistance of ChatGpt (Table 2). The study was approved by the local Ethic Committee.

Figure 1 COMPOSITE HEADACHE BURDEN INDEX



RESULTS: A total of 2,000 patients were enrolled in the study. Of these, 1,591 (79.5%) reported at least one episode of headache in the preceding year. The **composite headache burden index** found that 927 patients (58.3%) had a minimum/null burden (CHBI=0), 487 (30.6%) a mild burden (CHBI=1), 133 (8.4%) a moderate burden (CHBI=2), and 44 (2.8%) a severe burden (CHBI=3). (figure 1)

DISCUSSION: The composite headache burden index shows that a relevant proportion (11.2%) of the patients had a moderate to severe headache burden. This is a greater burden if only headache frequency was considered since 4.1% (65/1591) of our population had chronic headache.

CONCLUSION: The composite headache burden index has the potential to serve as a valuable tool to better understand the need of care of an underserved population as the HIV-headache population in SSA.

1. Zewde YZ et al. J Headache Pain. 2020 Sep 1;21(1):108.
2. Adoukonou T et al. Headache Pain. 2024 Apr 5;25(1):52.
3. Kawatu N et al. J Headache Pain. 2022 Sep 5;23(1):118.
4. Kuste Tegueu C et al. J Headache Pain. 2024 Mar 21;25(1):42.
5. Kissani N et al. J Headache Pain. 2024 Apr 3;25(1):49.
6. Leone M, et al. Cephalalgia - 2022 Aug - 42(9) - 918-925
7. Silvestro M, et al. J Headache Pain - 2022 Jun - 13;23(1):69
8. <https://www.dream-health.org> - <https://www.dream-health.org>