

Delivering antiretroviral therapy in settings of violent conflict

Edward Mills PhD, MSc, LL.M

emills@cfenet.ubc.ca

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Misconceptions

- Most writing on conflict has been led by academics
- SPHERE Guidelines (2004) recommended against providing ARVs in conflict-affected settings
- HIV/AIDS is rampant in conflict-affected populations
- Sexual violence results in increased HIV/AIDS incidence and prevalence
- Displaced communities increase HIV/AIDS in populations

Figure 1. Overlap of HIV prevalence and current conflicts (2007)

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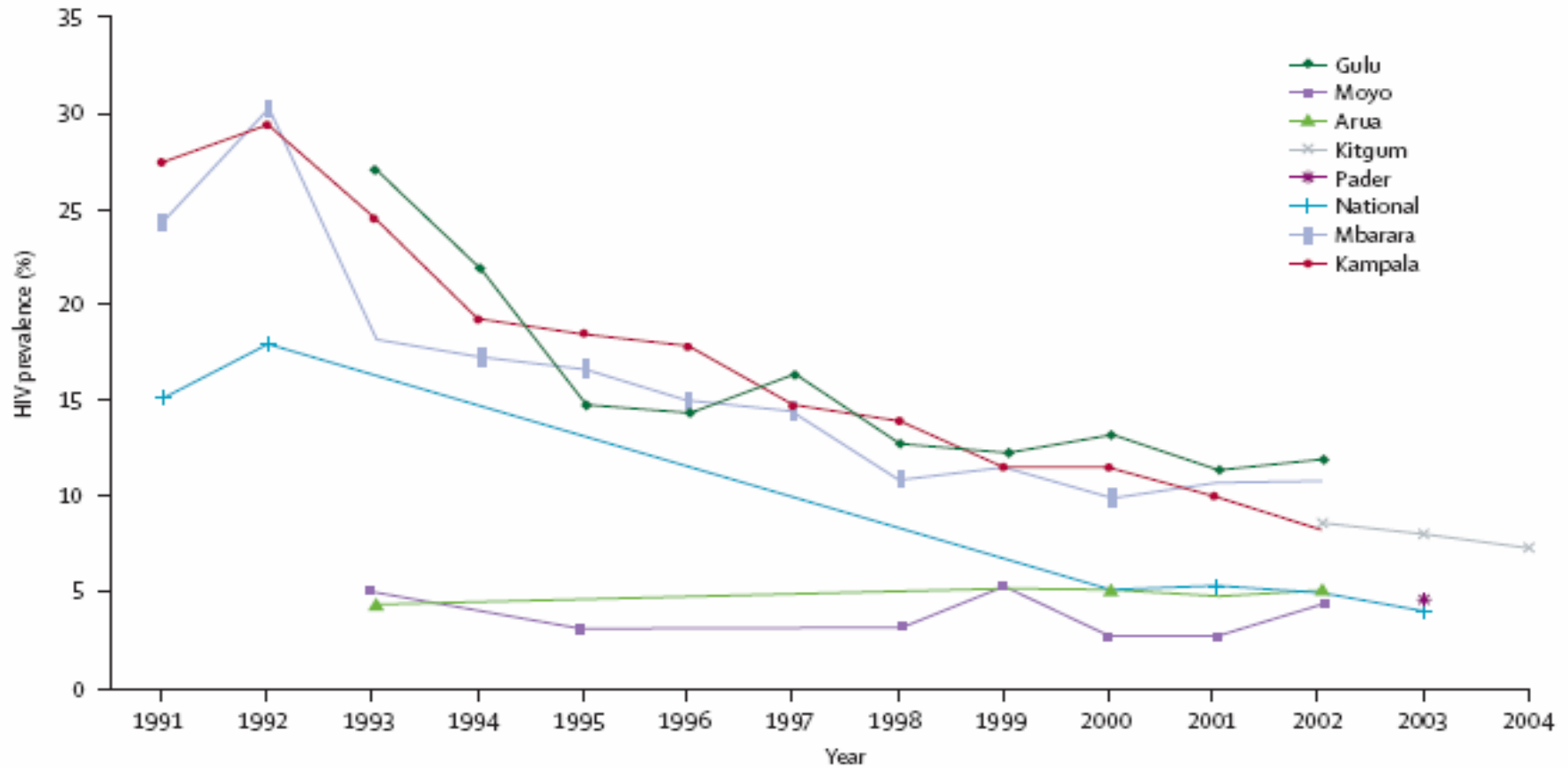
	Prevalence (95% CI)	Neighbouring country* and nearest sentinel site (2002)	Prevalence
Bukavu (urban)	3.1% (1.9–5.1)	Burundi, Kayanza (semiurban) Muramvya (rural)	10.2% 14.7%
Bunia (urban)	3.2% (2.0–5.1)	Uganda, Arua (rural)	5.2%
Goma (urban)	5.4% (3.8–7.6)	Rwanda, Gisenyi (rural)	7.1%
Kindu (urban)†	3.7% (2.4–5.8)
Kisangani (urban)†	6.3% (4.4–8.8)
Lodja (rural)†	6.6% (4.8–9.1)
Neisu (rural)	6.7% (4.7–9.2)	No site near border in Sudan	
Karawa (rural)	4.5% (2.9–6.6)	Central African Republic, Bangassou (rural)	9.0%

*Tanzania and Zambia do not have any sentinel sites close to the above-listed sentinel sites for eastern DRC. †These sentinel sites are not near the border.

Table 1: Prevalence of HIV infection in eastern DRC (2004) and in nearest neighbouring-country sentinel sites

Spiegel PB, Bennedsen AR, Claass J, et al. Prevalence of HIV infection in conflict-affected and displaced people in seven sub-Saharan African countries: a systematic review. *Lancet* 2007;369(9580):2187-95.

Prevalence of HIV infection in conflict-affected and displaced people in seven sub-Saharan African countries: a systematic review



Webfigure 2: HIV prevalence in Northern Uganda, compared with national data and data from other selected sites

For the Northern Uganda sites, Gulu, Moyo, and Arua used ANC data and Kitgum and Pader used data from the prevention of mother-to-child transmission programme, with acceptance rates by pregnant women of >97%. The non-Northern Ugandan sites of Kampala and Mbarara used ANC data.

Spiegel PB, Bennedsen AR, Claass J, et al. Prevalence of HIV infection in conflict-affected and displaced people in seven sub-Saharan African countries: a systematic review. *Lancet* 2007;369(9580):2187-95.

Reality

- Refugees/IDPs often live for years in relatively stable settings in their host country.
- By the end of 2003, refugee populations remained in their host country for an average of 17 years.
- Why have there been so few efforts to provide ARVs to these populations?

Northern Uganda

- As many as 2 million displaced persons
- 50,000 child abductions
- Mortality- excess 60,000 deaths per year

» 10,000 violent deaths per year (2005)

CMR 1.54/10,000/day (95% CI, 1.38-1.74) (ref 0.5)

<5MR 3.18/10,000/day (95% CI, 2.81-3.56) (ref. 0.8)

Average water per day 10.3 litres (95% CI, 9.9-10.7)

Average waiting time for water 2.7 hours (95% CI, 2.5-2.9)

Bednets available in 28% of homes (24-32)

HIV/AIDS

- Prevalence at TASO antenatal clinics: ~9% in 2006
- No data on incidence
- Estimates for Northeast as high as 21%
- Major causes of deaths in camps reported as malaria/fevers and AIDS
- HIV/AIDS care began in 2004 for adults

Seroprevalence in Gulu Region

Conflict and Health 2007;1

- HIV prevalence among antenatal clinic attendees was 10.3%.
- Women living in communities surrounding IDP camps had more elevated HIV prevalence compared to those living in IDP camps (11.6% vs 6.3%)
- IDP camps may have a protective impact on HIV transmission in Gulu

HIV/AIDS Care in Gulu Region

- Approximately 8000 pre-ART cases
- Free HIV/AIDS care began by TASO in 2004 for adults, 2005 for children
- Other care supplied by Lachor Hospital and the Joint Clinical Research Centre (JCRC)
- PMTCT services and cART
- Initiation: $CD4 < 200 \text{ cells/mm}^3$ or WHO stage 4
- cART regimens typically D4T/3TC/NVP

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Outcomes after 4 years

- More than now on 1700 patients on treatment in the Gulu region
- Current analysis presents data on 1625 patients >14 years of age
- 57 <14 years
- median follow-up time was 12.8 months (IQR 7.7-23.1 months).
- 2029 person years follow-up

Characteristics

- Median adult age 39 (33-46)
- Median CD4 160 (95% CI, 94-221)
- 1162 women (71%)
- Adherence considered adequate in 92.3% of patients (>95%)
- 62 patients with TB at initiation
- Treatment >6 months in 85% of patients
- 15% residing in camps

Outcomes

- 69 deaths, 3.4 events per 100 person-years
- CD4 at initiation predicted survival (HR per unit increase 0.99, 95% CI, 0.98, 0.99)
- Camp dweller predicted survival (HR 0.39, 95% CI, 0.23, 0.64)
- Women initiated at an earlier CD4 status than men
- TB at initiation was associated with lower CD4 cell counts (HR 2.04, 95% CI, 1.05-4.0)

Children

- 57 children initiated cART since 2005
- Median age 8 (IQR, 5-11)
- Average follow-up 227 (IQR 87-403)
- contributing 43.8 person years.
- All patients were receiving cART regimens of 2 nucleosides (NRTI) + 1 non-nucleoside.
- Thirty-four were female (60%), and 25 (44%) were either single or double-orphans.

Children

- No patients died after cART initiation.
- Tuberculosis was present in 3 patients at initiation and 1 post-cART.
- We found no major opportunistic infections.
- No differences between orphans and non-orphans in terms of:
 - CD4% (OR, 1.05, 95% CI, 0.98 to 1.12, P=0.12)
 - CD4 cell counts (OR, 0.99, 95% CI, 0.99 to 1.00, P=0.28),
 - weight (P=0.32),
 - presence of tuberculosis (P = 0.47)
 - WHO staging (P=0.22) at initiation
- Adherence was consistently excellent (>95%) in 92% of patients.

The MSF Experience

- MSF programmes currently support the provision of ARV therapy to about 140,000 people
- MSF began a pilot programme to provide cART care in conflict settings in 2003 in Democratic Republic of Congo (DRC)
- Built on the success of TB programs in Lankien, southern Sudan in 2001

DRC

- In late 2003, a programme began to provide ARVs in Bukavu, a city of 600,000 in eastern DRC
- By January 2006, 494 patients had started ART.
- The majority were started at an advanced stage of disease, presenting with WHO stage III (49%) and IV (34%) illness.
- Early outcomes were excellent, with a median CD4 gain at 6 months of 163 (IQR 82-232).
- At 12 months mortality of 7.9% (IQR 3.6-12.1) and lost-to-follow up was 5.4% (IQR 3.2-7.4).

DRC

- Fighting occurred in Bukavu mid-2004, at a time that 66 patients were on ARVs.
- Only 5 experience treatment interruptions.
- The first important evaluation that confirmed the success of ARVs in violent settings

Interventions that may assist

- Communications
 - Radio
 - Hotlines, examples from Bukavu and Kenya
 - Cell-phone assistance
 - Communications with local para/militaries

Interventions

- Retention strategies using motorcycle based field officers
- Runaway packs of ARVs
- Links with cross-border providers
- Patient-held cards

When to start?

- In our analysis, almost all patients initiated with a low CD4 status
- New WHO guidelines aim to move initiation to CD4 >350.
- Challenges exist in terms of human resources, access to ARVs, and identifying patients
- All data on when to start has, so far, been based on western data.

When to start?

- Using our Uganda database, we identified all mortality outcomes among all patients ever initiating ARVs.
- We included data on >24,000 patients.

When to start

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Conclusions

- Time and time we see examples in the AIDS epidemic where international leaders and organizations try to set policy against populations
- ARV provision should be expanded until there is clear evidence of harms.

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