Estimating antiretroviral therapy need among a rural cohort of adults in Kisesa, Tanzania

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Introduction

- Kisesa is a rural ward in Northwest Tanzania, with approximately 30,000 residents, and HIV prevalence in 2004 of ~ 8%.
- Referrals to an ART clinic for HIV+ residents of Kisesa ward, who had completed VCT, became available at the beginning of 2005.
- Estimates of antiretroviral therapy (ART) need provide a useful baseline for monitoring equity in treatment coverage, and are a useful tool for programme planning purposes in ART clinics.

Methods and definitions

- In an open cohort study, 16,757 consenting adults were interviewed and provided blood for HIV testing during at least one of four serological surveys between 1994 and 2004.
- Kaplan-Meier survival functions were constructed for 502 seroconverters, allowing their expected dates of death to be predicted. Maximum likelihood methods were used to predict expected death dates for "prevalent" cases, using our knowledge of age- and sex-specific incidence patterns and survival post-infection.
- Dates of first ART need among all HIV+ adults in the cohort were estimated, using number of years to expected death, and assuming that CD4 cell counts decline to an average of 200 u/l two years prior to death.
- Individuals estimated to first need ART in 2003, are defined as "probably too late" to benefit from the ART programme

Results

- The median time from infection to first ART need was longest among women who were under 30 years old at infection, and shortest among men who were 30 years or over at infection, as shown in table 1.
- An estimated 89% (538/607) of HIV +ve men and 76% (688/908) of HIV +ve women will need to begin ART before 2010.

Table 1: Years to first ART need by sex and age at infection

infection age	Male	Female	Both
<30 years	9.6	11.8	10.8
30 years+	6.2	7.4	6.7
Both	8.6	10.6	9.3

Figure 1: Time period of first ART need among currently HIV+ adults in Kisesa ward, by sex.

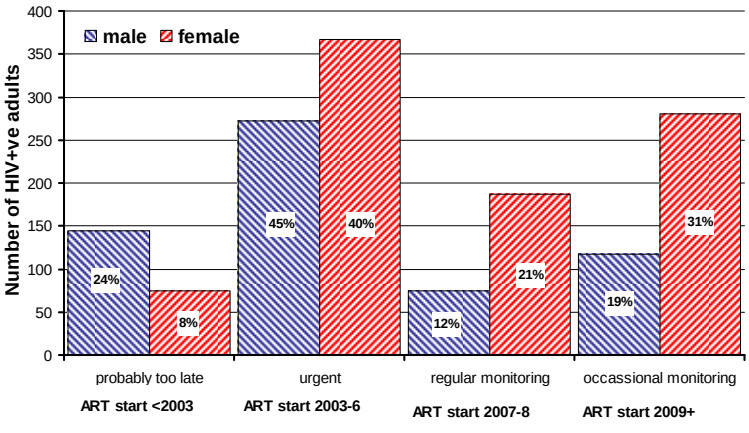
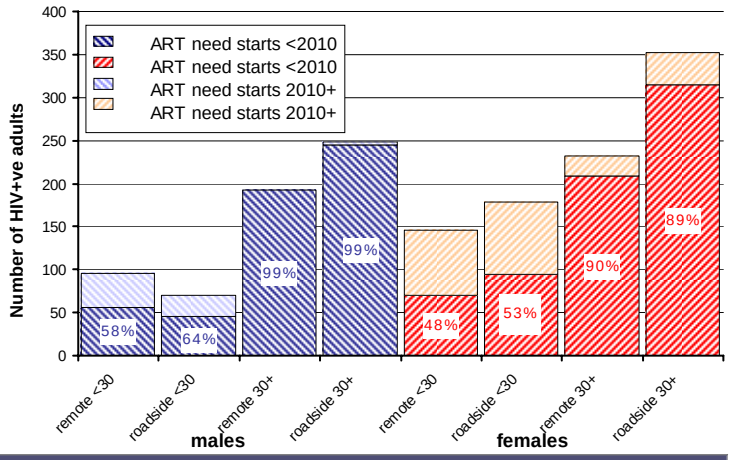


Figure 2: Year of first ART need among HIV+ adults in Kisesa by current age, sex and residence



Discussion and conclusion

- **There are more HIV-positive women than men in Kisesa, but men are more likely to need ART before 2010, irrespective of residence or current age, reflecting their shorter median survival time post-infection.**
- **The very high proportion of adults currently over 30 who will need ART before 2010 is consistent with high rates of infection among young adults.**
- **It will be important to assess the uptake of ART, relative to estimates of ART need, among Kisesa residents to monitor equity in access to treatment.**
- **Interventions may be required to promote access to ART among older adults, particularly males, from both roadside and remote areas.**

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