Access to, and uptake of, antiretroviral therapy among residents of a rural ward in north-west Tanzania during the first two years of the national HIV treatment programme

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BACKGROUND

Most ART cohort studies are only able to follow up patients from the time when they enrol at a HIV treatment clinic, rather than from their time of infection. As such, little is known about the socio-demographic factors that influence access to and uptake of HIV services. In the context of a long-term open HIV cohort study, this research aimed to describe socio-demographic patterns of access to HIV services, including voluntary counselling and testing (VCT) and antiretroviral therapy (ART) among HIV-infected residents of Kisesa ward in Tanzania.

METHODS

Since 1994, serological, sexual behaviour and demographic surveillance rounds have been regularly conducted among residents of a ward of approximately 29,000 residents. VCT services have been provided in the ward during serological surveys in 2004 and 2007, and at a permanent clinic in the ward's health centre since 2005. A referral system was established to facilitate access to, and monitor uptake of appointments at a nearby government-run HIV care and treatment clinic (CTC) for those who were HIV-positive in early 2005.

ART need among the cohort was described by time-period, sex, current age and area of residence, based on estimates of survival time post-HIV infection, and assuming that treatment need begins three years prior to HIV-related death. The uptake of VCT, referral appointments and initiation of ART were described using logistic regression in order to estimate the proportion of HIV-infected persons who accessed HIV testing and treatment, and to derive estimates of ART coverage after the first two years of access to the national ART programme.

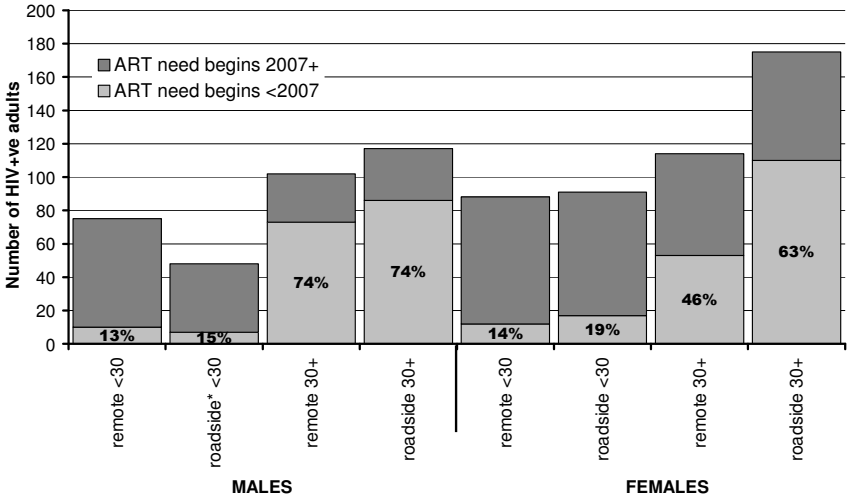
Qualitative methods were used to explore socio-demographic differences in access to HIV services. In 2005, 16 sex- and residence-specific focus group discussions were conducted with members of the community, following the introduction of VCT services, but shortly prior to the introduction of free ART, with the aim of eliciting perceived barriers to using HIV services. A follow up study using 4 FGDs and 41 in-depth interviews was conducted 18 months later among HIV-infected persons who had accessed the referral programme for ART treatment. These research activities aimed to explore experienced barriers to using VCT and ART, and to identify policy recommendations to improve equitable coverage with HIV services.

RESULTS

Estimated need for ART

45% (368/810) of HIV-infected adults who were resident in Kisesa during the last serological surveillance round were estimated to need ART during the first two years of the national ART programme (2005-7). As shown in figure 1, ART need was most urgent among older men, with almost three quarters of men aged 30 years and over needing to initiate ART within the first two years of the national programme, regardless of area of residence. ART need was least urgent among women <30 in remote areas, with only 14% estimated to need to initiate treatment within the same period.

Figure 1 : Estimated ART need among attendees of the 2003/4 serolgical survey round by sex, age and area of residence



VCT uptake

Overall, 17% (59/342) of HIV-infected males and 14% (66/468) of HIV-infected females had used the VCT services provided in Kisesa ward after two years of follow up, as shown in table 1. Among males, use of VCT services in the ward was highest among those aged 30 years and over (20%), and those who were resident in roadside areas(19%). Among females, use of Kisesa VCT services was highest among those aged under 30 years of age (16%) and those living in roadside areas (18%).

Referral rates

Table 1 shows the proportion of referrals made to CTC among clients who underwent VCT either during its provision during the fourth serological survey, or at Kisesa health centre, and the proportion of referred clients who subsequently registered for CTC services. Overall, 29% (17/59) of males and 44% (29/66) of females who completed VCT in the ward were referred to CTC. Among males and females, the proportion referred following VCT was highest among those aged 30 years and older (32% and 54% respectively) and those living in roadside areas (38% and 47% respectively). Among those who were referred to CTC, 82% (14/17) of males and 83% (24/29) of

females subsequently took up their referral appointment. Among males, the proportion taking up their referral appointment was lowest among those aged 30 years and over (77%) and those who were resident in remote villages (80%). Among females, the proportion taking up their referral appointment was similar for both age groups and higher among remote than roadside residents (100% versus 78%).

Table 1: Distribution of VCT, referral and CTC uptake among HIV-infected cohort members

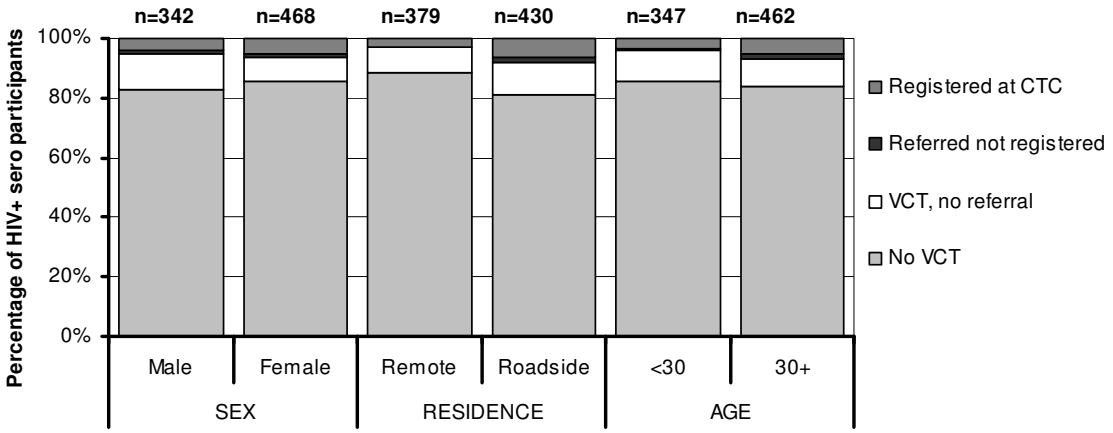
		Males						Females					
Variable	Level		VCT*		Referred†		CTC ‡		VCT*		Referred†		CTC ‡	
		Total	n	%	n	%	n	%	Total	n	%	n	%	n	%
All		342	59	(17)	17	(29)	14	(82)	468	66	(14)	29	(44)	24	(83)
Age	<30	137	18	(13)	4	(22)	4	(100)	212	33	(16)	11	(33)	9	(82)
	30+	205	41	(20)	13	(32)	10	(77)	256	33	(13)	18	(54)	15	(83)
Area of	Remote	177	27	(15)	5	(19)	4	(80)	202	17	(8)	6	(35)	6	(100)
residence	Roadside¥	165	32	(19)	12	(38)	10	(83)	265	49	(18)	23	(47)	18	(78)

** as a % of all HIV+ in SERO ; † as a % of all those who completed VCT; ‡ registered, as a % of those referred*

¥ roadside villages and trading centre combined

Figure 2 shows the percentage of HIV-positive adults who underwent VCT in the ward, received a referral to CTC and subsequently registered for CTC services by sex, age and area of residence. Although a higher proportion of HIV-positive men completed VCT compared to women, the overall proportion who registered for CTC services was slightly lower among men than women (14/342; 4% versus 24/468; 5%), due to a higher proportion of men who completed VCT not being referred compared to women (12% versus 9%). Overall, registration for CTC services was highest among residents of roadside areas (7%) and lowest among residents of remote areas (3%), although among referred clients a slightly higher proportion of roadside residents did not register at the CTC compared to those living in remote villages (2% versus <1%). A higher proportion of all HIV-positive persons who were 30 years old or over registered for CTC services compared to those who were under 30 years of age (5% versus 4%).

Figure 2: VCT, referral and CTC uptake among HIV+ sero participants, by age, sex and residence



ART coverage

Among HIV-infected adults who were estimated to need ART prior to the end of the study period, ART uptake was lower among males compared to females (3% versus 6%), lower among residents of remote villages compared to roadside residents (3% versus 5%), and lower among those under 30 years of age compared to those who aged 30 years and older (3% versus 5%).

Qualitative findings

Socio-demographic patterns of treatment access are complex. Married women faced specific barriers to VCT uptake, including expectations of negative responses from spouses, but it was men who emerged as the disadvantaged sex in relation to ART coverage, due to lower attendance at the ART clinic following diagnosis.

Lower coverage of HIV services among remote residents could be explained by many factors, including 1) lower exposure to support from home-based care programmes, counselling and PLHIV groups 2) less access to VCT and ART information and 3) higher costs associated with using HIV services.

CONCLUSIONS

Rates of VCT and referral uptake increased significantly between the second and third year of access to the national ART programme. Nevertheless, the majority of persons estimated to need ART were failing to access HIV testing services, suggesting that innovative and urgent efforts are needed to accelerate the uptake of VCT, and ensure that diagnosed HIV-infected persons are successfully linked to treatment programmes. Decentralisation of ART services to health centres may reduce geographic inequities if accompanied by community interventions to encourage uptake.

Further research should assess the impact of ART on HIV-related mortality at the community level, and monitor any changes in access to HIV services as a free ART clinic becomes operational in the local health centre in the fourth year of the national HIV programme.