CLINICAL

REFLECTIONS AND NEW CHALLENGES AFTER FOUR YEARS OF HIV SERVICES IN KHAYELITSHA

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In April 2000, Médecins Sans Frontières (MSF), in collaboration with the provincial government in the Western Cape, opened the first dedicated HIV/AIDS services within existing community health centres in Khayelitsha. Khayelitsha has one of the highest HIV prevalences in the province, and represented one of the most marginalised communities within the metropolitan area. The services were established within a highly polarised political context with respect to the role of antiretroviral therapy (ART). ART was introduced in the services in May 2001, to demonstrate the feasibility and effectiveness of the intervention within the South African public sector and at primary care level. The assistance of the Infectious Disease Epidemiology Unit of the School of Public Health and Primary Care at the University of Cape Town (UCT) was requested to monitor and evaluate the programme and ensure that the outcomes and lessons from this project would be adequately described. This included describing the clinical outcomes of patients accessing ART and the ability of patients to adhere to their medication. A number of other research partners at UCT were included to assess the cost-effectiveness of the intervention, the impact on the quality of life of patients, and the impact on the households in which patients live.

CLINICAL AND ADHERENCE OUTCOMES

As one of the first public sector programmes offering ART free of charge to patients in a high HIV prevalence setting in sub-Saharan Africa, the project has been closely observed both nationally and internationally. The early clinical outcomes have already been reported by the World Health Organisation and in the academic press, demonstrating patient retention and survival after 24 months on ART comparable to that reported in Europe and North America for patients in routine care with similar levels of disease advancement.[1,2]

Further components of the clinical analysis that have been closely observed are measures that indicate the extent to which patients have adhered to their therapy, given the importance of high levels of adherence to good therapeutic outcomes. Preliminary analyses of self-reported adherence (4-day recall period) at 1, 3 and 12 months on ART show that between 88% and 89% of patients are taking more than 95% of the required number of doses. This is validated by virological data indicating that 84% of patients have viral loads below 400 copies/ml after a year on ART, a measure that compares well with similar non-trial cohorts in better-resourced settings.

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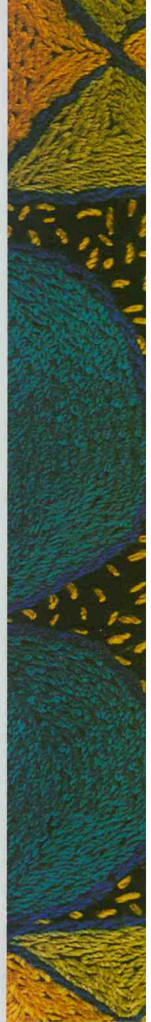
COSTS OF CARE AND QUALITY OF LIFE

Until recently, one of the major arguments against ART in South Africa has been the cost. MSF tackled this argument on two fronts – firstly demonstrating that generic antiretrovirals are effective and can lead to large cost savings, and secondly by commissioning the Health Economics Unit at UCT to examine the cost-effectiveness of the intervention. The project used imported generic antiretrovirals through a compassionate use agreement with the Medicines Control Council, initially importing drugs from the Brazilian state manufacturer, long before any generic antiretrovirals were registered in South Africa. The costing study demonstrated that per life-year gained, the costs of ART are similar to the costs of providing appropriate care in the absence of ART.[3] This indicates that

Patients receiving antiretrovirals in Khayelitsha celebrating, in May 2003, the two-year anniversary of the first patient to receive antiretrovirals as part of a joint initiative between the provincial Department of Health and Médecins Sans Frontières. Photo: Eric Miller.

in economic terms the intervention is technically efficient, and should be pursued if the resources exist. This efficiency was further enhanced when the costs were combined with quality of life data collected by the Physiotherapy Department at UCT, which demonstrated that there was no difference in the reported quality of life between patients on ART for a year or more and the general population, whereas patients with AIDS have a significantly reduced self-reported quality of life.

With the imminent expansion of ART in South Africa, there are a number of valuable perspectives contributed by the Khayelitsha project. One of the most remarkable findings to date has been the impressive retention of patients in care, which is certainly linked to the energy invested in preparing patients for treatment and, importantly, to the location of care within the community at primary care facilities. Of the 287 patients who began ART before the end of 2002, only 1 patient was lost to follow-up, a further 2 patients moved to the Eastern Cape, 2 transferred their care to other doctors, and two stopped attending services but were still in contact with the clinic staff. Given the backlog in providing ART, it is inevitable that our first national treatment sites will predominantly be at hospitals, but there can be little doubt that we need to move as quickly as possible towards strengthening primary care services so that people can be treated at this level. These initiatives should ensure that primary care services generally are improved and bolstered. Investment in adequate counselling services and providing a career path for ART-trained counsellors is a key enabler of patient retention and good clinical outcomes. Community activism has also been important to the success of the programme in Khayelitsha,



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ART IN KHAYELITSHA

Description of adults starting ART in Khayelitsha before the end of 2002			
Number	287		
Median CD4 count on starting ART (cells/µl)	43		
Gender	70% women		
Clinical outcomes 31 July 2003			
Duration of ART (mo.)	6	12	24
Percentage surviving	88	86	86
Percentage with viral load below 400 copies/ml	89	84	70
Median CD4 count increase from baseline (cells/µl)	134	184	288
Preliminary self-reported adherence results			
Duration of ART (mo.)	1	3	12
Percentage taking more than 95% of expected doses	88%	89%	88%
Cost-effectiveness analysis (undiscounted)	**ART**	**CD4 < 200, no ART**	
Average years lived	8.3	2.3	
Lifetime costs	R93 370	R22 546	
Cost per year of care	R11 209	R9 932	
Cost per quality-adjusted life-year saved	R13 751	R14 180	
Incremental cost per quality-adjusted life-year saved	R13 620		

and this too is much more easily linked to services if they are located within communities.

It is not only the provision of ART at primary care facilities that has ensured these results, but also the location of ART within the framework of a comprehensive HIV/AIDS service, rather than as specialised referral services. This project has provided powerful evidence in support of an integrated HIV service where patients develop a relationship with the service over time and, when appropriate, are started on ART within the same service.

The Khayelitsha project has demonstrated that nurses can provide these services provided that doctor support is available. This is reassuring given the major challenge to the widespread provision of ART, that of providing sufficient staff for the intervention.

NEW CHALLENGES

The first patients to access ART were extremely immunocompromised as reflected by the median CD4 cell count at the time of starting ART (43 cells/µl). The median CD4 cell count is now 70 cells/µl, reflecting a gradual reduction in the backlog of patients in urgent need of ART. Currently over 1 000 patients have started ART in Khayelitsha, but the project still needs to face the challenge of rapidly increasing access to care if it is to keep up with the increasing demand for ART.

In terms of operational research, new challenges are emerging in Khayelitsha that other programmes will soon face, and finding solutions to these questions is the basis of the current research. These include developing optimal approaches to identifying patients who need to change therapy due to resistance and treatment failure, and validating simplified approaches to treating children where currently the multitude of different tablets, syrups and suspensions required by many children can be difficult for both care-givers and service providers to manage. Although ART greatly reduces the incidence of tuberculosis in HIV-positive individuals (by over two-thirds in Khayelitsha), the overall burden of tuberculosis remains extremely high and novel health service approaches are required to both identify HIV-positive patients co-infected with tuberculosis and reduce the risk of acquiring tuberculosis for those patients not yet on ART.

Khayelitsha is one of the most marginalised urban communities in South Africa, with extensive co-morbidity. With additional support it has been shown that ART can be provided and that such support can lead to an improvement in primary care services generally. Given the huge threat to society posed by HIV/AIDS the challenge is now to expand HIV services and ART, particularly in rural areas. MSF has formed a partnership with the Eastern Cape Department of Health and the Nelson Mandela Foundation to demonstrate the feasibility of ART in rural settings, with 100 patients having started ART in Lusikisiki. Given that the effectiveness of the intervention is less contested than previously, the operational research emphasis within this project will be more directly focused on the systems of service delivery.

REFERENCES

1. World Health Organisation/Médecins sans Frontières. *Antiretroviral Therapy in Primary Health Care: Experience of the Khayelitsha Programme in South Africa. Perspectives and Practice in Antiretroviral Treatment.* WHO/HIV/2003.04.
2. Coetzee D, Hildebrand K, Boulle A, Maartens G, Louis F, Labatala V, et al. Outcomes after two years of providing antiretroviral treatment in Khayelitsha, South Africa. *AIDS* 2004; **18:** 887-895.
3. Cleary S, Boulle A, Mcintyre D, Coetzee D. *Cost-Effectiveness of Antiretroviral Treatment for HIV-Positive Adults in a South African Township.* Health Systems Trust, 2004.