

THE KEISKAMMA AIDS TREATMENT PROGRAMME: EVALUATION OF A COMMUNITY-BASED ANTIRETROVIRAL PROGRAMME IN A RURAL SETTING

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This paper documents the outcomes of the first 174 patients enrolled in a recently established community-based antiretroviral (ARV) treatment programme. Many people are living with HIV/AIDS and are in need of ARVs. Access to ARVs can pose many logistical difficulties for poor and sick persons, particularly in rural areas. This community-based treatment programme aimed to overcome these challenges, providing transport and nursing care, as well as actively seeking persons too sick to leave their homes. This led to the inclusion of many persons with advanced HIV in the treatment population. The study used routinely collected CD4 counts, viral loads and patient observation. The results show that the majority of patients responded well to treatment. There was higher mortality among the population with advanced disease, but a considerable proportion responded well. Only 4 patients were lost to follow-up. This study details how community-based ARV programmes can be useful adjuncts to the facility-based system. Effective treatment programmes must address the needs of the communities they serve.

The HIV/AIDS epidemic affects virtually every community in South Africa. Many people live in rural settings, and the Eastern Cape, in which there are a large number of rural communities, has an HIV prevalence of 29.5% among antenatal clinic attendees.¹ Many people are in need of antiretroviral drug therapy (ART).

The Keiskamma AIDS Treatment (KAT) programme began in Hamburg, Eastern Cape, in July 2004. It was established in response to community needs, identified through routine work in the local primary care clinics. Both the desperate need for and total absence of ARVs in the area were clearly apparent. The KAT programme, in partnership with PEPFAR, was the first provider of antiretrovirals (ARVs) in the Ngqushwa (Peddie) district. Like the Madwaleni Hospital ARV programme featured in this journal² in 2006, the KAT programme serves impoverished rural communities. The KAT programme differs from Madwaleni in some ways. The KAT programme is a community-based service designed to cater for all those in need of ARVs. This includes people living with HIV/AIDS who are too sick or too poor to access facility-based resources, in an area where the sparse, rural distribution of villages add geographical and logistical challenges. The set-up of the KAT programme and the manner in which it began functioning closely reflected the needs of these patients.

ARVs have only become widely available in South Africa since government funding was made available in 2004.³ As a result, rural treatment programmes do not yet have many patient follow-up results available (scarce resources being concentrated on patient care rather than data collection and analysis).

This study follows the progress of the first patients through the KAT programme. The study period runs from July 2004 to February 2006, during which time 174 adults entered the programme.

BACKGROUND AND METHODS

The KAT programme is heavily dependent on the local communities it serves. Members of these communities are employed as nursing staff, caregivers, community health workers and drivers. The KAT programme utilises their access to local communities as a basis for the provision of care.

The KAT centre opened with the intention of serving residents of Hamburg and neighbouring villages. Demand for the facility increased rapidly, largely owing to lack of alternative facilities in the Ngqushwa district (Nompumelelo Hospital in Peddie received limited accreditation in March 2006 and full accreditation at the end of 2006). Owing to the burden of disease and the economic limitations and geographical remoteness



Before the Treatment Centre was acquired, patients needing 'inpatient' care were accommodated in the home of a counsellor.

of communities, the effective implementation of the KAT programme depended on three key components: inpatient facilities, transportation, and a network of home-based care workers.

The KAT centre was established in an old house in Hamburg, a coastal village between East London and Port Alfred in the region of the Eastern Cape previously known as Ciskei. The house was made available by the Department of Public Works. It was equipped with 20 beds and acted as a residential facility where patients too ill for ambulant care were prepared for and initiated on ARVs according to the South African *National Antiretroviral Treatment Guidelines*.⁴ Patients would typically stay at the centre for 1 - 2 weeks or longer, during which time they would be educated about the ARV regimen and the importance of adherence. Many of the patients arrived in a very poor state of health, extremely weak and unable to care for themselves. A benefit of the 'step-down' facility meant that patients unable to cope at home could be cared for and fed in a supportive and secure environment. Patients presenting with opportunistic infections were treated where possible. Patients left the centre once they were prepared and established on their ARV courses.

The KAT centre uses two bakkies (pick-up trucks) with drivers to serve the transportation needs of the programme. These fetch and deliver patients and serve as ambulances for patients referred to secondary and tertiary facilities for specialist consultation. The provision of transport by the KAT programme is one of its most important elements, as it provides access to treatment for patients who are too sick to walk to facility-based care or too poor to afford transport. It is also an important means by which staff based in the KAT centre can interact with the community health worker network.

The network of community lay health workers act as adherence monitors in the outlying villages and provide a means by which patients can contact the KAT centre. These carers visit the patients in their homes, and maintain regular cellphone contact with the KAT centre. There are 19 villages in Peddie South, all of which have monitors. The KAT programme aims for 2 monitors

per village and at the time of this study employed 32 monitors on stipends.

The majority of patients are referred to the KAT centre by the primary care clinics in the area. However, some patients turn up un-referred and patients have arrived from as far away as Port Elizabeth, King William's Town and Middle Drift. For patients living beyond the community health worker network, adherence monitoring is more complicated. These patients travel as a last resort, telling stories of past encounters with health care authorities that are characterised by frustration, misunderstandings and missed opportunities. In response to their acute needs and desperation, the KAT programme policy is to offer effective and compassionate care for people living with HIV and AIDS, regardless of where they live.

A high proportion of patients arrive at the KAT centre very sick with concurrent TB. Many had been awaiting sputum results at their local health services, and treatment for TB frequently resulted in remarkable recoveries in patients assumed to be dying of AIDS but who were in fact dying from TB.

For the purpose of this study, which assesses the first 174 patients seen (between July 2004 and February 2006), patients were clinically classified as ambulant or bedridden, and CD4 count at treatment initiation provided a baseline measure. Possible patient outcomes, as measured after 6 months of treatment, are 'good response' (viral load (VL) <400 copies/ml, or if not available CD4 count >250 cells/ μ l), 'poor response' (VL >400 copies/ml, or CD4 <250 cells/ μ l), 'died', 'lost to follow-up', 'insufficient data' and 'transferred out' (gone to other ART programmes).

RESULTS

BASELINE DEMOGRAPHICS

Of the study population, 26% were male and 74% female; 42% of those who initiated treatment were assessed as bedridden, and the remaining 58% were ambulant.

Baseline CD4 counts are available for 93% of the study group. Of these, 37% were in the range 0 - 49 cells/ μ l, 26% were 50 - 99 cells/ μ l, 26% were 100 - 199 cells/ μ l and 11% were in the range \geq 200 cells/ μ l.



A staff member speaks to patients in the Treatment Centre.

PATIENT OUTCOMES

Only 2 patients discontinued treatment, one for personal reasons and the other because of severe psychotic side-effects. Twenty-seven patients (16%) were transferred out to other ARV programmes. Unless otherwise stated, the following figures and discussion relate to the outcomes of the 145 patients (83% of the baseline population) for whom data are available.

Fig. 1 shows that the majority (61%, $N=88$) of patients had a good response, 16% ($N=23$) had a poor response, 21% ($N=30$) died and 3% ($N=4$) were lost to follow-up.

At treatment initiation, 70 patients (41% of the baseline population) were bedridden (Table I). Analysis of available patient outcomes shows that 43% of the bedridden patients died, a considerably higher percentage than in the ambulant patients. Of the ambulant population, 95% survived and nearly three-quarters achieved a good response. There were no significant differences between male and female patients in either group.

DISCUSSION

In addition to more women living in rural areas and higher infection rates in women,⁵ the significantly larger number of female participants may reflect difficulties in accessing male patients. The distribution of baseline CD4 counts in this population differs from what may be considered ideal for ARV programme initiates. The

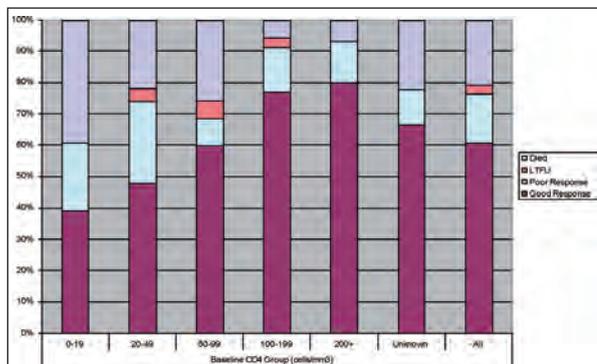


Fig. 1. Breakdown of known patient outcomes by baseline CD4 group in 145 patients.

TABLE I. BREAKDOWN OF AVAILABLE PATIENT OUTCOMES BY BASELINE CLINICAL STATUS AT TREATMENT INITIATION

	Clinical status	
	Ill/ambulant	Moribund
Total population ($N=172$)	102 (59%)	70 (41%)
Data available ($N=145$)	84 (58%)	61 (42%)
Good response	61 (73%)	27 (44%)
Poor response	17 (20%)	6 (10%)
Lost to follow-up	2 (2%)	2 (3%)
Died	3 (5%)	24 (43%)



A health education session at the Treatment Centre.

majority of patients presented with critically low CD4 counts.

The CD4 count distribution seen in this population is likely to have arisen for two principal reasons. As this was the first service to provide ARV treatment in the area, a reservoir of seriously ill patients with advanced disease progression and low CD4 counts would have existed. Additionally, the nature of the KAT programme is likely to have meant that more patients with lower CD4 counts were included than would be found in conventional facility-based programmes. Using information provided by community members, the KAT programme actively seeks persons in need of ARVs. This facilitated treatment for patients unable to access facility-based care. Of patients with baseline CD4 counts 0 - 99 cells/ μ l, 56% were bedridden and unlikely to have accessed conventional facility-based care.

Because the treatment centre is recently established, it is important to review patient outcomes. It is encouraging that 80% of the study population survived or were transferred out. With time it is hoped the KAT programme will pick up patients earlier, when their CD4 levels are closer to 200 cells/ μ l.

The fact that 98% of all patients who entered the programme were successfully followed up may be attributed to the community-based system the KAT programme operates. The training and involvement of community health workers appears to be a successful policy. The benefits of this system include the monitors' intimate knowledge of local people and communities, their ability to communicate effectively, close geographical proximity to patients, and an understanding of patient cultural backgrounds. These factors will have had an important role in achieving the low number of patients lost to follow-up.

Although considerably more bedridden patients than ambulant patients in the programme died, outcomes in the former group can still be regarded as highly successful. These moribund patients were extremely ill at treatment initiation. It should also be noted that the majority of bedridden patients who died did so shortly after initiating treatment, before the ARVs had therapeutic effect.



An essential part of the programme is home visits.

CONCLUSIONS AND IMPLICATIONS

The results of this study suggest that the KAT programme achieved some notable successes in its first period of operation, July 2004 - February 2006. The unconventional, community-based, bottom-up approach appears to be well suited to the area and people it serves. Patients in preparation for treatment initiation experienced the benefits of the 'step-down' inpatient facility which brought them to a level of health where ARV initiation was viable. The inpatient centre also acted as an effective platform on which ARV counselling and education could be conducted. The patient outcomes suggest that key issues such as regimen understanding and adherence were successfully addressed. The transport system used by the KAT programme made it possible for the programme to be accessed by those most in need – the sickest and poorest.

Community health workers were key to the success of the KAT programme. They provided an extensive support network throughout the district. The high adherence and low proportion of patients lost to follow-up are successes attributable to these workers. Community health workers are also important sources of useful related local information, such as identifying other persons in need of help within their communities. Effective communication and co-operation between community health workers and the KAT centre has been crucial.

Community involvement made it possible to access bedridden patients otherwise not visible to health services. It is likely that the vast majority of these patients would have died had the KAT programme operated a conventional facility-based service. This study provides evidence that no one should be regarded as too sick to enter treatment programmes, and effort and resources should be expended in order to include such patients into a treatment programme.

This study provides evidence that a community-based model of ARV distribution can be effective in rural settings. At the time of writing, the KAT programme was integrating with recently accredited government ARV providers in the district, but continued to fill the gaps where patients are unable to access government services. Working within the government HIV/ARV programme is important for sustainability. This must not be done at the cost of care provision to rural communities. The potential for community-based ARV programmes to substantially improve rural health care exists. It is important that such programmes play a role in national HIV/ARV policy.

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