TWO YEAR FOLLOW-UP OF PATIENTS ATTENDING ART CLINICS IN GAUTENG AND THE NORTH WEST PROVINCE: RESULTS OF SYSTEMATIC REVIEW OF 12,431 PATIENTS

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Executive Summary

The Tshepong Wellness Clinic (TWC) located at the Klerksdorp/Tshepong Hospital Complex in Northwest Province started its antiretroviral (ARV) roll out programme in 2004, and currently caters to over six thousand adults in need of HIV related care and treatment. The clinic is one of the first sites in South Africa to utilize a down/up-referral service model. This model has enabled the clinic to continue to initiate large numbers of patients on treatment while using other parts of the health care system to manage stable patients in the chronic phase of their condition. With the increasing number of clients, management of data and defaulters had become an area of concern for the clinic. The current records system is unable to keep track of the status of the patients and the clinic management has been concerned if. Over the last few years, the clinic had possibly lost a significant amount of patients who have been initiated on treatment and who are being incorrectly reported as actively attending the clinic. RHRU conducted a pilot review of 100 patient files in late June 2006, to establish the scale of the problem. This was followed by a review of all files in July 2006. Over 70 individuals participated in the full file review. These included doctors, nurses, counselors and non-clinical staff. A total of 5750 files were reviewed during this process.

Definitions:

Active was defined as patients currently accessing the clinic services
Clinic Defaulters were defined as patients, never initiated on ARV who had visited the wellness clinic at a certain time but had not returned in over six weeks since their last visit
Down referred were defined as patients who had been referred to other Wellness clinics and PHC clinics
Treatment Defaulters were defined as patients who had been initiated on ARVs but had not returned to the clinic for a follow up or to the pharmacy for a re-fill of their medication, in over six weeks since their last visit.

Methodology

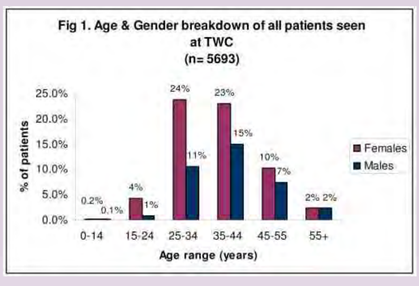
RHRU developed a one page data collection tool to capture all relevant data from the files. This tool was piloted with 100 patient files to check for content appropriateness, reliability and feasibility. The data collection tool was revised based on the outcomes of the pilot and input from the stakeholders.

Each of these categories was assigned a colour. At the end of the file review, only the active patient files (ascertained by the sticker colour) were returned to the shelves. Files of other categories of patients were stacked separately to be addressed appropriately by the clinic staff.

Results

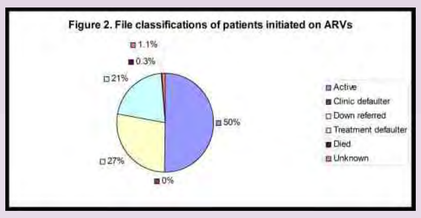
I. Demographics

A total of 5750 patient files were reviewed during this process. Approximately 64% of patients accessing services at the Wellness clinic were females and 36% were males. The mean age for the cohort was 38 years. The age and gender distribution is represented in **Figure 1**. (Information on 1% was missing so it has been excluded from calculations for Figure 1.)

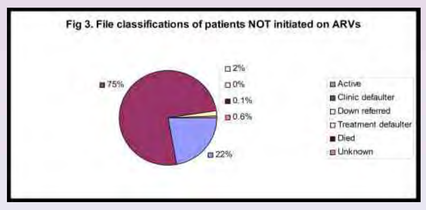


II. Patient Status:

As shown in **figure 2**, of the 5750 files reviewed, 41% were classified as actively accessing care, 23% were classified as clinic defaulters, 19% were down referred and 14% were treatment defaulters. Approximately 2% of files belonged to patients who were deceased. 1% of files could not be classified due to missing data

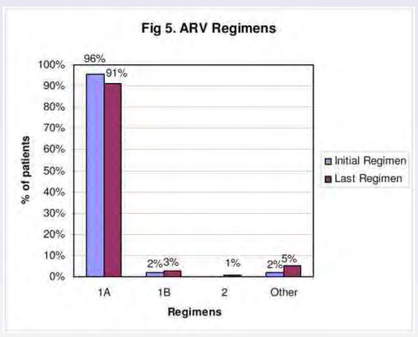


At the time of the file review, 68% (n=3942) patients out of 5750 files reviewed had ever been initiated on ARVs. **Figure 3** gives breakdowns of the files of patients who have never been initiated on ARVs. Status of approximately 1% (n=42) could not be ascertained due to missing data. These 42 files have been excluded from further analysis in the calculations below. Similarly, 31% (n=1765) of patients had not been initiated on ARVs at the time of the review. Status of <1% of patients not initiated on ARVs (n=11) could not be ascertained due to missing data, therefore these have been excluded from analysis below.

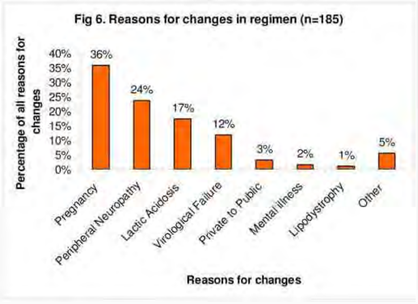


III. Drug Regimens:

As shown in **figure 5** below, the first regimen for 96% of the patients initiated on ARVs was 1A which constitutes efavirenz,, stavudine (D4T) and lamivudine (3TC). Review of the current or last regimen that patients were taking indicated that 91% of patients continue on regimen 1A.

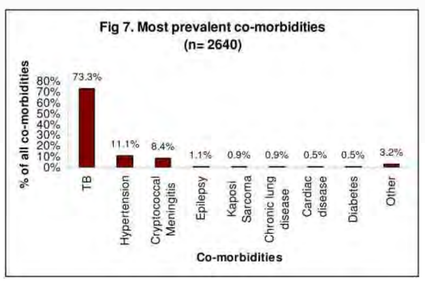


Approximately 9% (n= 344) of the 3942 patients initiated on ARVs had a change in regimen. As reflected in **figure 6**, the most common reasons for changes in regimen were pregnancy, peripheral neuropathy, lactic acidosis, and virological failure. It was found that 4% (n=144) of the current TWC patients were initiated on ARVs in the private sector. Of these, 3% had their regimen changed to conform to public sector treatment guidelines.



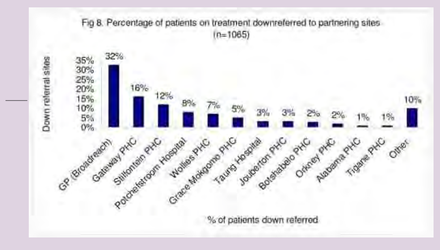
IV. Comorbidities/ Concurrent diseases:

Of a total of 5750 files reviewed, 2640 cases of co-morbidities were found. Patients could have more than one co-morbidity. **Figure 7** shows the most common co-morbidities seen among all the reviewed patient files. TB is the most prevalent concurrent disease followed by hypertension and cryptococcal meningitis. It should be noted that information on cryptococcal meningitis was collected on day two of the file review only so this co-morbidity is under-reported. The TB category includes pulmonary TB, miliary TB, TB meningitis, and TB of unspecified localisation. The PCP category includes other pneumonia (n=3). Other illnesses found in addition to the above include asthma, cervical cancer, hepatitis, herpes zoster, peripheral neuropathy, lipodystrophy, etc, all of which had less than 5 cases each.



V. Down Referrals/ Out-Transfers

Of all the patient files reviewed, 19% (n=1097) belonged to patients who had been down referred. 3% (n=32) of patients had not been initiated on ARVs before being down referred. **Figure 8** gives a distribution of patients who were initiated on ARVs (n=1065) and subsequently referred from the TWC to partnering down-referral sites



VI. CD4 Count Analysis

Information on the baseline CD4 count, defined as the lowest CD4 count before ARV initiation for patients initiated on ARVs or the lowest CD4 count found in files of patients not initiated on ARVs, was found in 5479 of all the files reviewed. The mean and median baseline CD4 count for all patients were 103 cells/mm^3 and 95 cells/mm^3 respectively. **Figure 8** gives median absolute baseline CD4 counts of patients initiated on ARVs and not initiated on ARVs, distributed by age

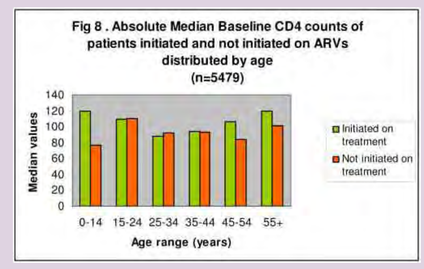
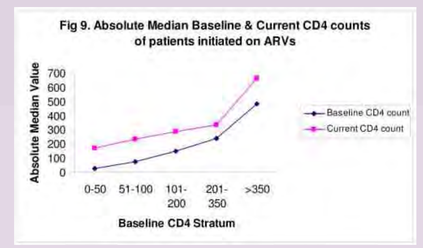


Table 1 gives the distribution of the baseline and current CD4 counts of patients initiated on ARVs into commonly used CD4 count strata. It shows the changes between baseline and current CD4 counts of patients who started in the various CD4 count stratum. This table also highlights one of the challenges encountered in the file review, that is attrition of data between baseline and follow up

CD4 range	Base Line CD4			Current CD4			Change in Mean CD4	Change in Median CD4
	n	*Mean*	*Median*	*n*	*Mean*	*Median*		
0-50	1065	26	26	607	202	170	**176**	**144**
51-100	898	76	75	528	256	234	**180**	**159**
101-200	1694	149	148	1055	320	288	**171**	**140**
201-350	84	253	240	41	352	336	**99**	**96**
>350	21	497	482	14	669	661	**172**	**179**
All	3762	101	96	2245	275	245	**174**	**149**

Figure 9 shows the median absolute values for baseline and current CD4 count for patients initiated on ARVs.



VII. Defaulter Analysis

Of the 799 patients who defaulted on treatment, 60% (n=479) were females and 40% (n=317) were males. Gender information on 1 patient was missing so it has been excluded from the calculations. **Figure 16** gives a distribution of treatment defaulters by age and gender. More females in the 25-34 age group defaulted versus their male counterparts and more males in the 35-44 age group defaulted versus their female counterparts. The co-morbidity patterns for defaulters were similar to that of the whole cohort. TB was the most prevalent co-morbidity, followed by hypertension.

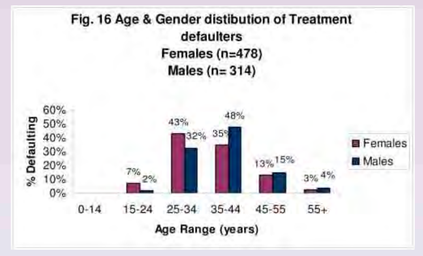
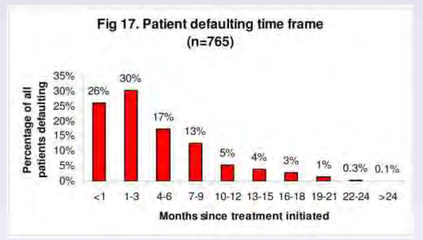


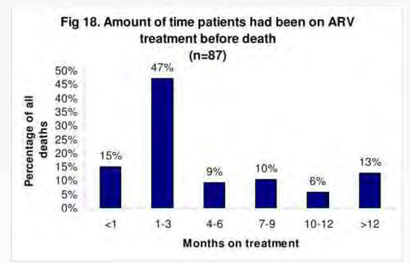
Figure 17 provides information on the time frame between treatment initiation and patient defaulting. A total of 799 patients defaulted on treatment at this site. Information on 4% (n=34) was missing so they have been excluded from the calculations below. Of 765 treatment defaulters, 26% defaulted in less than one month of starting treatment. At three months post treatment initiation, another 30% of patients had defaulted, and by six months post treatment initiation, an additional 17% had defaulted. Thus, more than 70% of patients who defaulted treatment did so in the first 6 months of starting treatment.



VIII. Deceased Patients

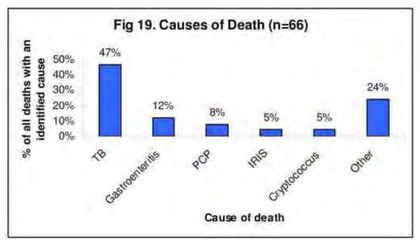
Of all the 5750 files reviewed, 2% (n=111) files belonged to deceased patients. These patients had Wellness Clinic files and had died while in inpatient care at Tshepong Hospital. The analyses exclude anyone who either died at home or at another hospital, or died at Tshepong Hospital but did not have a Wellness Clinic file.

The mean age at death was 38 years. All except one patient had a baseline CD4 count of <200 cells/mm^3. Baseline CD4 counts were available for all deceased patients. The mean and median baseline CD4 count were 73 cells/mm^3 and 59 cells/mm^3 respectively. Of the 111 patients deceased, 82% (n=91) had been initiated on ARVs. **Figure 18** gives details on how long patients had been on treatment at the time of death. Time on ARV information was missing for 4 patients so these have been excluded from the calculations for figure 18. 62% of patients initiated on treatment died within the first three months of starting ARVs.



Causes of Death

Figure 19 shows the most common causes of death among the deceased patients. Out of 111 deceased patients, the reason for death information was only available in 60% (n=66) of the patient files, with this information coming exclusively from the Tshepong Hospital files. The calculations for Figure 19 were based on patients whose reason for death was known. One patient could have more than one cause of death. TB is the most common cause of death, followed by gastroenteritis. Causes of death under the "other" category include lactic acidosis, virological failure, hepatitis, etc, with less than 3 cases each.



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