Factors that promote adherence among clients receiving free antiretroviral therapy in Northern Tanzania

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Background

HIV/AIDS in Tanzania

- Adult HIV prevalence: 6.5%
- 2 million adults and children living with HIV
- National ARV coverage as of October 2006
  - People needing treatment: *420,000*
  - Number on treatment: 54,000
  - ARV delivery sites: 200

(UNAIDS, 2006; NACP, 2006)

Consequences of poor adherence

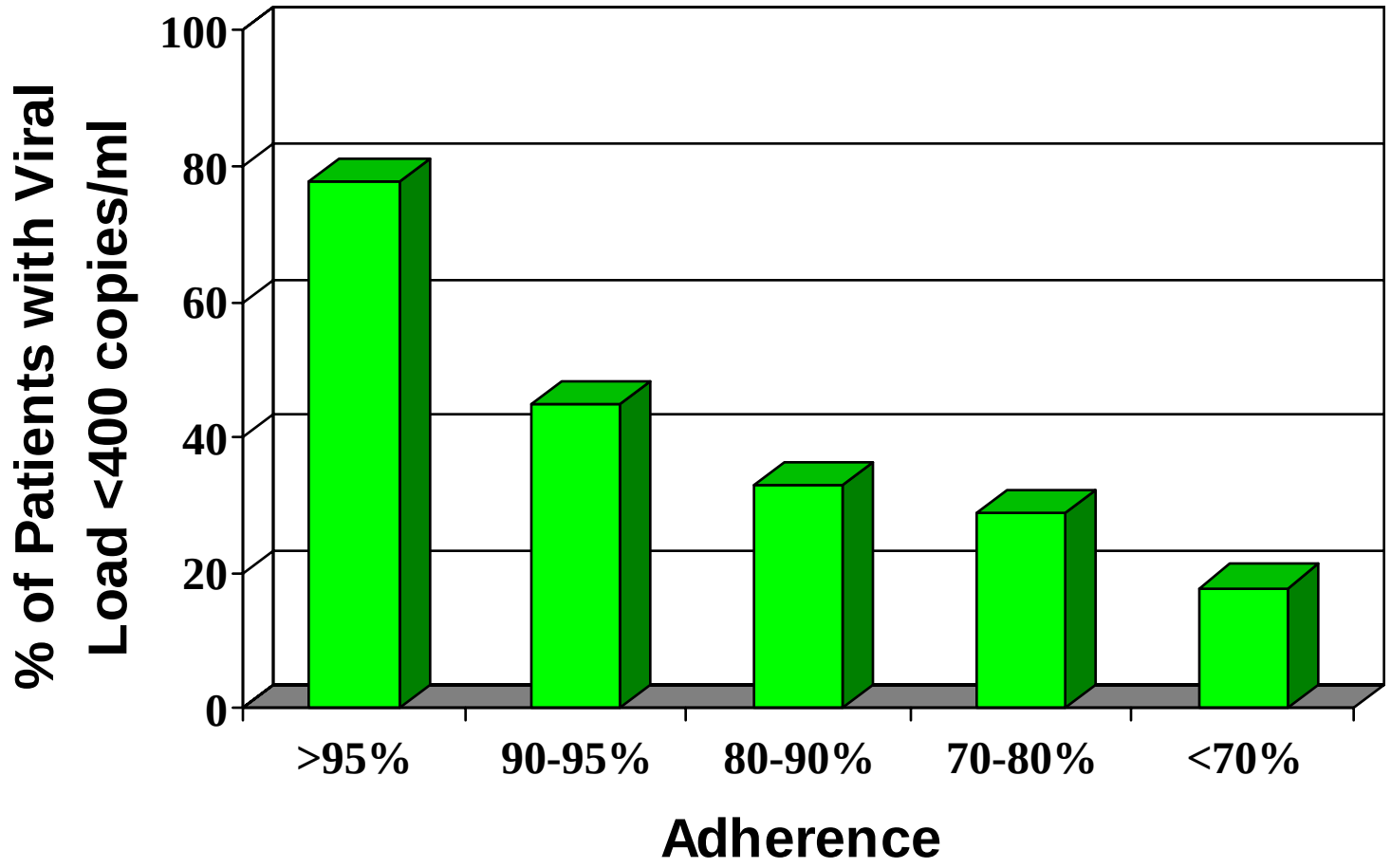
Individual level:

- Poor response to therapy
- Drug-resistant mutations of the virus
- Further treatment options after failure are limited, and likely more difficult to adhere to

Population level:

- Drug-resistant strains of the virus can be transmitted to others
- Costs to families, health systems and societies

The impact of ART adherence on viral load



(Paterson et al, 2000)

Despite initial reservations about African patients' abilities to adhere…

Many Africans "don't know what Western time is. You have to take these (AIDS) drugs a certain number of hours each day, or they don't work. Many people in Africa have never seen a clock or a watch their entire lives. And if you say, one o'clock in the afternoon, they do not know what you are talking about."

(Andrew Natsios, USAID Administrator, quoted in *Boston Globe*, 7/7/01)

Adherence may be higher in African settings

Meta-analysis of studies on adherence showed better adherence in African settings, compared with North American settings (Mills et al, 2006)

Pooled estimates of patients achieving adequate adherence

- 77% of patients in African studies
- 55% of patients in North American studies

A survey of 340 patients in the study clinic found that 94% (320/340) of patients had ≥95% adherence by self-report (Watt, unpublished)

We don't understand the factors that *facilitate* adherence

- Most studies look at *challenges* of adherence, but fail to explore factors that facilitate good adherence.
- Majority of studies use only quantitative methods.
- Only a few qualitative studies in developing country settings on ARV adherence
  - South Africa (Rowe, 2005)
  - Botswana (Weiser, 2003)
  - Uganda (Crane, 2006)
  - India (Kumarasamy, 2005)

Study aims

Study aim

Based on the evidence of excellent adherence in this and similar settings, this study aimed to qualitatively explore the factors that facilitate patients' adherence to ARVs

Study setting

Study setting

Study site

- Faith-based clinic operating since 1956
- PEPFAR site
- Over 700 adult patients receiving free ARVs
- Patients qualify to start ARVs if CD4<200 or WHO clinical stage IV
- ARVs offered as part of a continuum of care for PLWHA
- All patients paired with an HIV+ voluntary adherence counselor (VAC) for support and follow-up

Methods

Methods

Sample:

- 36 patients receiving free ARVs
- 6 health care providers at the study site

Content of in-depth interviews:

- Narrative approach to elicit:
  - PATIENTS: experiences being diagnosed and starting ARVs, routines for taking ARVs, barriers/facilitators adhering, social support, disclosure, stigma, adherence over previous month
  - PROVIDERS: services provided, perceptions of patients' adherence

Analysis:

- Interviews recorded, transcribed in Swahili, translated to English
- Coded in English using Atlas t.i.
- Content analysis to identify main themes

Results

Sample characteristics

Patients (n=36)

Average age:

41.6 (Range 29 to 68)

Average time on ARVs:

9.8 months (Range 1 to 24)

	TIME ON ARVs		
	< 6 months	6 – 12 months	12 months
MALE (n=17)	6	3	8
FEMALE (n=19)	7	7	5

Providers (n=6)

- 2 physicians
- 2 nurse/counselors
- 1 professional counselor
- 1 pharmacist

Gender:

4 male, 2 female

Average age:

40 (Range 35 to 49)

Adherence was excellent

Of 36 respondents, 32 said they had perfect adherence during the previous month. All but one had >95% adherence.

Reasons for missing pills:

- (F, 30, 4 months on ARVs) Busy with an evening church event
- (F, 35, 10 months on ARVs) Fell asleep early and missed the evening pill
- (F, 53, 13 months on ARVs) Busy in the morning and forgot
- (F, 31, 18 months on ARVs) Stopped for 10 days because she had malaria and was vomiting

Facilitators of excellent adherence

1. Patients perceived the health benefits of ARV adherence
2. Patients were motivated to stay healthy for family well-being
3. Patients routinized pill-taking
4. Patients had support from others
5. Patients trusted advice of service providers

Providers reinforced these facilitators

1. Patients perceived the health benefits of ARV adherence

Most patients were very sick before starting ARVs and attribute their improved health to the medications.

> "I have no such idea of stopping to take them for sure, because I was too much tortured before. I was sick for a very long time, I was just sleeping in bed. But now I am not. Therefore it's not easy for me to stop them because they are the ones that made me better."
> (Female, 45, On ARVs for 17 months)

1. Patients perceived the health benefits of ARV adherence

Many patients talked about being afraid that if they didn't adhere they would become very ill or die.

> "It is in my mind. Because I believe that if I miss one day I will kill myself."
> (Male, 49, On ARVs 6 months)

Providers emphasized importance of adhering for improving health and prolonging life; gave examples of the impact for other patients

> "Sometimes we give them live examples, comparing a patient when they first started to their present condition. That helps them not to lose hope, to show them the medicine helps them." (Health care provider)

2. Patients were motivated to stay health for family well-being

Patients with children often said that their immediate reaction on being diagnosed with HIV was fear of leaving their children without support. The desire to be around for their children became a motivator to adhere.

> "I use these drugs to prolong my life and to make sure my children go to school until they grow up. If you miss taking these drugs, you're going to die. And you will leave the children as orphans. That's why I take it as food, which you have to eat every day."
> (Male, 36, On ARVs 10 months)

2. Patients were motivated to stay health for family well-being

Patients with adult children wanted to reduce the burden they're putting on their families.

> "It's hard to seek support, crying for support… I do not want to be a burden to them, because I am supposed to help my children, not my children helping me."
>
> (Male, 55, On ARVs 14 months)

Providers reminded patients about the importance of being around to take care of their children.

3. Patients routinized pill-taking

Patients talked about how they adapted their schedules to take their pills on time.

> "Using them becomes like a normal timetable, like that of a working schedule. For example if you have a cow, when you wake up you know at what time you're going to feed that animal, and this is the same with my drugs, I have the same timetable. I can't do my work without taking the drugs first, then after I take my drugs then I am free to work."
> (Female, 40, On ARVs 4 months)

3. Patients routinized pill-taking

Most patients had very predictable daily routines that included the time to take their pills.

> "When I get up from my bed, the first thing is to brush my teeth, and while brushing my teeth the water is boiling for my tea. I go to the table and drink my tea. When the time is approaching, I take my drugs. After finishing, I clean off the table and on with my cleaning. Then I go to the market…. [In the evening] after fetching water, the children have already eaten, and I sit down and eat. I just look at the time while eating. And when it reaches 10pm. I stop eating and take my drugs. After that I take a short rest and I go to sleep."
> (Female, 30, On ARVs 6 months)

3. Patients routinized pill-taking

Patients had strategies to adhere if their routine changed, especially if traveling.

> "I can't forget - it's all the time in my mind. When I have a trip I'd better pack my pills and forget my clothes. And I go with enough water to last everyday."
> (Male, 31, On ARVs 13 months)

Patients anchored the time of taking their pills with other activities, like mealtimes, tea, brushing teeth, prayer, radio or TV programs

4. Patients got tangible and emotional support

Patients disclosed selectively in their social networks, but the people to whom they disclosed gave important support:

- Reminders
- Material support
- Emotional encouragement

Reminders: Often a spouse or children, even if they hadn't directly disclosed to the children

4. Patients got tangible and emotional support

Material support: Important for having adequate food and transportation fare

Emotional support: Encouragement, often related to 'normalizing' HIV.

> "They really help me, give me advice. Even encourage me, because sometimes I feel heartbroken. To some extent they help to give me courage, so that I can see it as a normal thing."
> (Female, 30, On ARVs 4 months)

4. Patients got tangible and emotional support

The VACs gave patients information and emotional support, made more salient because they were also living with HIV.

> "When you talk with a person with the same problem as you it's easy to understand each other well."
> (Female, 37, On ARVs 3 months)

Providers made efforts to engage family members or friends in patients' care.

> "It is a benefit, especially for adherence to the medication. It is believed that if they involve a second person, it reduce stigma first and then it improves adherence to the medication." (Health care provider)

5. Patients trusted advice of service providers

There was no questioning about the importance of health care providers' instructions to adhere to medications. Even patients who did not understand the life-long nature of ARVs said they would not stop until instructed by the doctor.

> "I will not stop, even if there are side effects, because I was told to use it. If I stop for some reason, it will be bad. If the doctor who gave me the pills tells me that I'm supposed to stop, I will stop, but apart from that I will use it, even if there are side effects."
> (PT34, M, 49, On ARVs 4 months)

5. Patients trusted advice of service providers

Health care providers made efforts to build trusting relationships with patients.

> "I make jokes sometimes to make patients feel comfortable, so you can explore their insights and they can tell you how they feel… You feel free to chat with patients and they feel free to chat with you." (Health care provider)

Conclusions

Adherence excellent in this setting

- This is encouraging news for scale-up of ARVs

- Notes of caution:
  - Possibility of self-reporting bias
  - Selian patients have been on ARVs a relatively short time. The long-term picture could be different

Lessons for interventions to sustain/enhance adherence

Factors at the individual, inter-personal and institutional levels interact to facilitate adherence

Comprehensive ARV programs should make these connections and be grounded in the social context of the setting

Lessons for interventions to sustain/enhance adherence

- Increase perceived benefits of adherence
  - Role models of PLWHA (VACs model)
  - Feedback on clinical progress
- Seek to bolster psychological motivators
  - Appropriate counseling
  - Motivational interviewing

Lessons for interventions to sustain/enhance adherence

- Help patients link regimens to daily routines
  - Skills-based counseling by health care provider or peer counselor
- Improve social support
  - Engage patients' natural support system in routine care
  - Joint counseling for patients/supporters
  - Assistance to patients in disclosing and mobilizing support

Lessons for interventions to sustain/enhance adherence

- Engagement of all health care providers in adherence support
  - Training of providers
  - Time to provide appropriate support

Thank you!

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