

No Association Found Between Traditional Healer Use and Delayed Antiretroviral Initiation in Rural Uganda

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Abstract Traditional healer and/or spiritual counselor (TH/SC) use has been associated with delays in HIV testing. We examined HIV-infected individuals in southwestern Uganda to test the hypothesis that TH/SC use was also associated with lower CD4 counts at antiretroviral therapy (ART) initiation. Approximately 450 individuals initiating ART through an HIV/AIDS clinic at the Mbarara University of Science and Technology (MUST) were recruited to participate. Patients were predominantly female, ranged in age from 18 to 75, and had a median CD4 count of 130. TH/SC use was not associated with lower CD4 cell count, but age and quality-of-life physical health summary score

were associated with CD4 cell count at initiation while asset index was negatively associated with CD4 count at ART initiation. These findings suggest that TH/SC use does not delay initiation of ART.

Keywords HIV/AIDS · Traditional healer · Spiritual counselor · Late presentation · Uganda

Resumen La consulta con un curandero tradicional y/o consejero espiritual (TH/SC) ha sido asociada a retrasos para someterse a la prueba de VIH. Evaluamos personas con VIH en el sudoeste de Uganda para poner a prueba la

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hipótesis de que consultar con un TH/SC también está asociado a un conteo bajo de células CD4 al inicio de una terapia antirretroviral (ART). Se reclutó aproximadamente 450 personas iniciando ART en una clínica de VIH/SIDA en la Universidad de Mbarara de Ciencia y Tecnología (MUST). Los pacientes fueron predominantemente mujeres, entre las edades de 18 y 75, cuyo recuento mediano de CD4 estaba en 130. Se encontró que la consulta con un TH/SC no está asociada a un recuento menor de células CD4. Sin embargo, la edad y la calidad de vida física sí se encontraron asociados al recuento de células CD4 al inicio. En contraste, el índice-de-recurso se encontró asociado negativamente con el recuento de CD4 al inicio del ART. Estos hallazgos sugieren que la consulta con un TH/SC no resulta en un atraso para iniciar la ART.

Introduction

Late presentation for antiretroviral therapy (ART) contributes to disease progression, mortality, and HIV transmission [1], and has posed a particular threat to the population in sub-Saharan Africa [2, 3]. Traditional healers and/or spiritual counselors (TH/SC) are often the first point of contact for the health care needs of the sub-Saharan African underserved community; [4] they hold a familiar belief system, have ancestral roots in the community, and maintain an in-depth understanding of the culture [5]. Estimates indicate up to 70% of the population in sub-Saharan Africa receive care from TH/SC [6, 7], who have been implicated in patient health care-seeking delays [8–10]. Prior research examined factors associated with delays in HIV testing [11–15], and TH/SC use was found to be associated with late HIV diagnosis [16–18]. Coordination and collaboration with these highly respected and trusted members of the community could potentially facilitate HIV testing and treatment of individuals from these hard-to-reach communities.

While most studies indicate that high-risk behavior (or a higher perceived risk) is protective against late HIV testing, [1] predictors of late initiation of ART may be more complicated [19, 20]. Little is known about whether TH/SC use is associated with the timely initiation of ART. We examined TH/SC use among patients initiating ART in rural southwestern Uganda and hypothesized TH/SC exposure would be associated with delayed ART initiation, measured by lower CD4 at ART initiation.

Methods

Study Population

Patients beginning ART at the Mbarara University of Science and Technology (MUST) Immune Suppression

Syndrome (ISS) Clinic in southwestern Uganda were invited to participate in this study. The ISS Clinic has over 18,000 registered HIV-infected patients, of whom approximately 7,000 individuals receive ART [21]. For this analysis we used baseline data, measured prior to ART initiation, from a cohort of 457 patients participating in the Uganda AIDS Rural Treatment Outcomes (UARTO) study, a prospective study of ART-naïve patients initiating no-cost ART. Data were collected from June, 2005 until August, 2009.

Measures

Traditional healer/herbalist (TH) and/or spiritual counselor (SC) use at the time of ART initiation was determined by the question, “In the past 3 months, did you visit or were you visited by:” “Spiritual Counselor,” “Traditional Healer or Herbalist?” Demographic characteristics collected included age, sex, marital status, educational background, household asset wealth, alcohol consumption, and distance from clinic in self-reported travel time. The Medical Outcomes Study HIV Health Survey (MOS-HIV) [22–24] is a 35-item instrument used to measure health-related quality of life (HRQoL). Composite Mental Health Summary (MHS) and Physical Health Summary (PHS) scores were calculated from the MOS-HIV scale scores that measured physical functioning, role functioning, social functioning, cognitive functioning, mental health, health distress, energy/fatigue, pain, quality of life, and general health perception [25]. The MOS-HIV has been used previously in research with people living with HIV/AIDS in Uganda and has been shown to be a reliable and valid instrument [26–28]. Depression severity was measured using a modified Hopkins Symptoms Checklist for Depression (HSCL-D) [29–33]. Household wealth was measured using an asset index derived from a principal components analysis of three groups of asset indicators: consumer goods owned by participant, characteristics of participant living quarters, and participant landownership [34]. The asset index at ART initiation was converted into an ordinal variable of increasing quintiles, and a dichotomous variable was created based on univariable regression analysis results that distinguished the top two from the bottom three quintiles. All information was collected by trained interviewers using structured questionnaire translated and back translated in the local language of Runyankole.

Statistical Analyses

The primary analysis examined the association between CD4 count and TH/SC use at ART initiation using ordinary least squared (OLS) regression and controlling for potential

confounders. Variables found to be associated at $P < 0.25$ with the outcome (CD4 count) on univariable regression were retained for the multivariable model [35].

Ethical Considerations

The study was approved by the Partners Human Research Committee at Massachusetts General Hospital; the Institutional Ethical Review Committee, Mbarara University; and the Uganda National Council of Science and Technology.

Results

Participants included 457 HIV-infected individuals interviewed at ART initiation, of whom 317 (69%) were female, one quarter had a secondary-level education or higher, and close to half (44%) were married. Ages ranged from 18 to 75 years with a median age of 34 years, interquartile range (IQR) = 29–39. Over 40% of the population took an hour or more to travel from their home to the clinic. Participants at ART initiation had a median CD4 count of 130, IQR = 70–195 (Table 1).

At baseline, 30 participants (7%) had visited a traditional healer or herbalist (TH) and 51 participants (11%) had visited a spiritual counselor (SC) during the 3 months prior to ART initiation; a total of 78 participants (17%) visited a traditional healer/herbalist and/or a spiritual counselor (TH/SC) during the 3 months prior to ART initiation, and only three participants (0.6%) reported visiting both.

Univariable linear regression found no association between CD4 cell count and TH/SC use during the 3 months prior to ART initiation. Both age ($P = 0.037$) and MOS-HIV physical health summary (PHS) score ($P = 0.007$) were directly associated with CD4 count at ART initiation. (Table 2) Having a secondary or above level of education and having an asset index in the highest two quintiles were inversely proportional to CD4 count; while these relationships were not statistically significant ($P < 0.25$), they were included in the multivariable regression model.

Multivariable regression did not show a significant relationship between CD4 count and TH/SC use after adjusting for covariates. CD4 count did show a significant direct relationship with PHS ($P = 0.001$) and with age ($P = 0.024$), as well as a significant inversely proportional relationship with having an asset index in the top two quintiles (0.047).

Discussion

We found that visiting a TH/SC during the three-month period prior to ART initiation was not associated with CD4

Table 1 Participant demographics (N = 457)

Characteristics	Median (IQR) or n (%)
Sex	
Male	140 (30.6%)
Age	34 (29–39)
Education	
No education	79 (17.3%)
Primary	265 (58.0%)
Secondary and above	113 (24.7%)
Marital status	
Never married	34 (7.4%)
Married	197 (43.1%)
Divorced	117 (25.6%)
Widowed	106 (23.2%)
CD4 count	130 (70–195)
AUDIT-C	
Problem-drinking	110 (24.1%)
Asset index	
0–20% quintile	90 (19.7%)
20–40% quintile	93 (20.4%)
40–60% quintile	88 (19.3%)
60–80% quintile	93 (20.4%)
80–100% quintile	88 (19.3%)
MOS HIV	
Physical health summary	53.1 (43.4–58.2)
Mental health summary	50.4 (45.0–57.2)
Depression score (HSCL-D score)	1.73 (1.31–2.00)
Distance to clinic (in minutes)	40 (30–60)
TH/SC exposure	78 (17.1%)

count at ART initiation, suggesting that TH/SC exposure is not associated with late presentation for ART initiation. A recent review article on delays in tuberculosis (TB) care in sub-Saharan Africa by Finnie and colleagues found that consulting traditional healers was the only factor which consistently led to delays in both diagnosis and care seeking. [36] Studies in sub-Saharan Africa have also documented delays in seeking treatment for malaria [37] breast cancer [38], and first-episode psychosis [39], which were also attributed to traditional healers. Much like HIV infection, initial symptoms may not be readily identified, and health-seeking behaviors for these illnesses may be quite similar. An HIV diagnosis, however, may heighten concerns and lead to more prompt treatment, a response that may differ for other ailments.

Older age was also associated with earlier ART initiation in univariable and multivariable linear regression, while being in the top two quintiles of a composite asset index score was inversely proportional to CD4 count. In contrast to Girardi and colleagues, who found that older age correlated with late HIV diagnosis but did not correlate

Table 2 Adjusted[†] and unadjusted linear regression coefficients (standard error) on CD4 count

Variable	TH exposure	
	Unadjusted coefficient (SE)	Adjusted standardized beta
Age	1.21 (0.58)*	0.107*
Sex (ref: female)		
Male	−9.41 (10.48)	
Educational level (ref: no education)		
Primary	−10.46 (13.25)	
Secondary and above	−18.11 (15.16) [‡]	−0.011
Marital status (ref: never married)		
Married	18.23 (19.19)	
Widowed	17.12 (20.37)	
Divorced	10.55 (20.13)	
AUDIT-C (ref: Men < 4, Women < 3)		
Men > 3, Women > 2	−9.54 (11.32)	
Asset index (ref: 0–20% quintile) [§]		
20–40%	−7.79 (15.18)	
40–60%	2.17 (15.39)	
60–80%	−23.47 (15.18) [‡]	
80–100%	−23.28 (15.39) [‡]	−0.099*
Travel time to clinic (in minutes)	0.08 (0.11)	
TH/SC (ref: No visit in past 3 months)		
Visit with TH/SC in past 3 months	14.08 (12.84) [‡]	0.066
MOS-HIV		
Mental health	0.38 (0.51)	
Physical health	1.14 (0.42)**	0.155***
HSCL-D Score	−8.76 (8.83)	
<i>N</i>		431
<i>R</i> ²		0.045

[†] Multivariable linear regression at ART initiation

[‡] Factors associated with the outcome at $P < 0.25$ and included as covariates in multivariable regression analysis

[§] Dichotomous variable was created for multivariable linear regression dividing first three and highest two quintiles

* $P < 0.05$; ** $P < 0.01$;

*** $P < 0.005$

with late presentation for treatment, [19] our study found older age to be protective against late ART presentation. Higher asset index correlated with late presentation, and this delay may reflect participants in high socioeconomic strata concerned about local stigma, which result in treatment-seeking delays. Lower PHS, a marker of lower physical functional status was associated with lower CD4, consistent with more advanced HIV disease.

There are several limitations to our analysis. We examined TH/SC use during the three-month period prior to ART initiation without temporal or quantitative assessment. More distant TH/SC use was not assessed and no distinction between participants who met with a TH/SC frequently versus those who had visited only once during this period could be made. Future studies will need to obtain more detailed information regarding TH/SC exposure, including visit frequency and duration, motivations for seeking care, and treatments received. Rates of TH/SC exposure were low, which limits our ability to detect an association, and which may reflect a selection bias where

individuals who visit TH/SC do not survive or do not choose to be treated at biomedical institutions. Finally, our parameter estimates have an associational, not causal, interpretation. Further longitudinal studies are needed to explain this relationship.

Conclusion

In summary, our study indicated that visiting a TH/SC prior to ART initiation is not associated with delayed ART initiation while higher asset index did have a paradoxical association with delayed ART initiation. These findings suggest that exposure to TH/SC is not a barrier to ART use. Future studies and interventions are needed to see how TH/SC may be leveraged to improve early presentation for treatment and care.

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