

HIV/AIDS-Related Attitudes and Practices Among Traditional Healers in Zambézia Province, Mozambique

Carolyn M. Audet, PhD,^{1,2} Meridith Blevins, MSc,^{1,3} Troy D. Moon, MD, MPH,^{1,4,5} Mohsin Sidat, MD, PhD,^{5,6} Bryan E. Shepherd, PhD,³ Paulo Pires, MD,⁶ Alfredo Vergara, PhD,^{1,2} and Sten H. Vermund, MD, PhD^{1,4}

Abstract

Objectives: To document HIV knowledge, treatment practices, and the willingness of traditional healers to engage with the health system in Zambézia Province, Mozambique.

Settings/location: Traditional healers offer culturally acceptable services and are more numerous in Mozambique than are allopathic providers. Late presentation of human immunodeficiency virus (HIV) infection/acquired immunodeficiency syndrome (AIDS) is reported among persons who have first sought care from traditional healers.

Design: One hundred and thirty-nine (139) traditional healers were interviewed in their native languages (Chuabo or Lomwe) in Zambézia Province. Furthermore, 24 traditional healers were observed during patient encounters. Healers answered a semistructured questionnaire regarding their knowledge of HIV/AIDS, general treatment practices, attitudes toward the allopathic health system, and their beliefs in their abilities to cure AIDS.

Results: Traditional healers were older and had less formal education than the general population. Razor cutting in order to rub herbs into bloodied skin was observed, and healers reported razor cutting as a routine practice. Healers stated that they did not refer HIV patients to clinics for two principal reasons: (1) patient symptoms/signs of HIV were unrecognized, and (2) practitioners believed they could treat the illness effectively themselves. Traditional healers were far more likely to believe in a spiritual than an infectious origin of HIV disease. Prior HIV/AIDS training was not associated with better knowledge or referral practices, though 81% of healers were interested in engaging allopathic providers.

Conclusions: It was found that the HIV-related practices of traditional healers probably increase risk for both HIV-infected and uninfected persons through delayed care and reuse of razors. Mozambican traditional healers attribute HIV pathogenesis to spiritual, not infectious, etiologies. Healers who had received prior HIV training were no more knowledgeable, nor did they have better practices. The willingness expressed by 4 in 5 healers to engage local formal health providers in HIV/AIDS care suggests a productive way forward, though educational efforts must be effective and income concerns considered.

Introduction

LOCATED ALONG THE COAST of the Indian Ocean in sub-Saharan Africa, Mozambique is bordered by six countries and has a population of ~21 million people (Fig. 1). After gaining independence from Portugal in 1975, the government of Mozambique discouraged the use of traditional healing practices in favor of modern allopathic medicine.¹ Forced underground, many traditional healers continued to practice in secret. The end of the civil war coincided with the rise of the

human immunodeficiency virus (HIV) epidemic; acquired immunodeficiency syndrome (AIDS) cases subsequently overwhelmed the already severely undercapacitated health care system.² In a policy reversal, traditional healers were now encouraged by the government to employ their skills to improve the health status of Mozambicans, but tensions remain between allopathic practitioners and traditional healers.^{1,3} In sub-Saharan Africa, researchers have found that healers delay patient treatment of HIV and they may also transmit HIV through use of unsterilized razors for traditional

¹Vanderbilt Institute for Global Health, ²Departments of Preventive Medicine, ³Biostatistics, and ⁴Pediatrics, Vanderbilt University School of Medicine, Nashville, TN.

⁵Universidade Eduardo Mondlane, Maputo, Mozambique.

⁶Friends in Global Health, Quelimane and Maputo, Mozambique.

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FIG. 1. Map Highlighting Mozambique and Zambezia Province.

skin-cutting practices.⁴⁻⁶ There are reports of healers prescribing risky treatments in order to lift curses or spells.⁶⁻²⁰ With the expansion of combination antiretroviral therapy (cART) throughout the country, supported largely by the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) and the Global Fund, the authors sought insight into the knowledge, attitudes, practices, and behaviors of traditional healers in rural Mozambique.

HIV in Mozambique, Including Zambezia Province

In 2009, HIV prevalence in Zambezia Province was estimated at 12.6%.²¹ Recent programs with the support of local

and international partners enabled 25,138 people to access HIV care and treatment between January 2003 and March 2010.²² By the end of 2009, the Ministry of Health (MISAU) estimated that 170,198 persons had received cART, 38% of those HIV-infected Mozambicans for whom therapy is indicated.²³ Several PEPFAR-supported organizations are active under MISAU direction in Zambezia Province, including the Vanderbilt-affiliated nongovernmental organization, Friends in Global Health (FGH). FGH has both care and prevention training and technical support responsibilities for 12 of 17 of the province's rural districts.²⁴ The authors have observed that many patients continue to seek treatment from traditional healers, and that healers have few incentives to refer people to clinics for HIV testing and treatment.

Zambezia Province was home to >3.8 million people in 2007 (Fig. 2).²⁵ Its 17 provincial districts are linguistically and culturally diverse. The authors' work with traditional healers was conducted in three districts: Inhassunge, Namacurra, and Alto Molocuè. Most people living in Inhassunge and Namacurra speak Chuabo, while a preponderance of Alto Molocuè inhabitants speak Lomwe. All three districts have a small district hospital that is staffed full-time; outlying communities have health posts with resident nurses and medical technicians, with occasional visiting physicians. Use of nurses and medical technicians is designed to provide care in the face of Mozambique's physician shortage, one of the worst in the world.^{23,26-30}

Traditional Medicine in Africa

In both rural and urban sub-Saharan Africa, traditional healers typically hold positions of authority within their communities.^{7-17,31-37} Unlike physicians, traditional healers are thought to be able to diagnose ailments resulting from such sources as social transgressions, spirits, curses, and sorcery.^{15,17,19} Although there are no published statistics detailing the number of healers in Mozambique, the numbers of healers dwarfs the ~1000 allopathic doctors currently



FIG. 2. Map of Zambezia Province.

practicing in the country.²⁸ People seek care from traditional healers due to social acceptability, perceived source of illness, personal relationships between healers and their patients, as well as the perceived fit of a healer's explanation of illness with patient expectations.^{4,14–19,34,38,39} Hence, many people who seek traditional medicine until they experience severe HIV symptoms do not benefit from earlier care and treatment with free cART.⁴⁰ Few studies of traditional healers have been conducted in Mozambique.^{15,41}

Materials and Methods

Design, sampling, and procedures

A cross-sectional survey was conducted of traditional healers in Zambézia Province, north of the Zambezi River, just southeast of Malawi. The largest organized group of traditional healers in Mozambique is the Associação dos Médicos Tradicionais de Moçambique (AMETRAMO). Through district AMETRAMO and community referrals, 139 traditional healers were recruited for interviews. In addition, 24 healers were asked for permission for ethnographic observation during a client encounter in the districts of Namacurra and Inhassunge in the southeast and Alto Molócuè in the north of the province. The research goal was to assess traditional healers' HIV knowledge, attitudes toward HIV, treatment practices, and engagement of the allopathic health system. Semistructured interviews were conducted with traditional healers from June to October 2009. About half were recruited with assistance from AMETRAMO representatives, with the other half recruited with assistance from community members, the latter to ensure the sample did not include only those healers friendly to the AMETRAMO leadership. The qualitative survey design was influenced by other studies^{15,35,38} and included questions about previous HIV training, treatment techniques, and collaboration potential. Healers were not financially compensated for their participation. Qualitative research was based on native language transcripts translated into Portuguese, the national language, and subsequently into English. All participants signed written consent forms. Approval to conduct the work was received from the National Committee for Bioethics for Health in Mozambique and the Institutional Review Board at Vanderbilt University.

Statistical methods

Characteristics of traditional healers were summarized in the following areas: sociodemographics, HIV knowledge, treatment practices, and attitudes toward working with the national health care system. For univariate comparisons, ranked sum and χ^2 tests were used. Multivariable logistic regression determined which healer characteristics were predictive of claims to effectively treat HIV, including age, sex, district, education, and number of health training sessions attended. To assess HIV knowledge, a proportional-odds model with number of correct routes of transmission identified by the healer was fit with the same predictors. In both models, missing values of age were accounted for using multiple imputation techniques. In this technique, other baseline characteristics were used to predict the missing value for each healer, and then regression on the imputed data was performed. This task was repeated 10 times, and

the average estimates were taken from multiple regressions.⁴² R-software 2.10.0 (www.r-project.org) was used for data analyses.

Results

Characteristics of traditional healers

All of the 139 traditional healers (65 men [47%] and 74 women [53%]) approached for the study agreed to participate (Table 1). When asked why they had become traditional healers, 102 (73%) indicated they were visited by spirits during a previous illness and were given the gift of healing. Having a traditional healer as a family member encouraged 24 (17%) to become healers. They had been practicing for a median of 20 years (interquartile range [IQR]: 8.5–30). Healers stated that they diagnosed patients in two ways: 45% conferred with spirits to divine the cause of the ailment, while 55% spoke to the patient about symptoms and possible causes. Healers saw a median of 4 patients per week (IQR: 2–7), consulted with patients for 1 hour at a time (IQR: 0.8–3), and charged 45 Mozambican meticais (MT; worth almost US\$2 at the time of the study) for each consultation (IQR: 20–100 MT or US\$0.80–\$4). Healers in Alto Molócuè received higher compensation and saw more patients per week than those in southern districts ($p < 0.001$ for both). Alto Molócuè healers charged a median of 100 MT (US\$4) per consult, while those practicing in Namacurra charged 50 MT (\$2) and those in Inhassunge charged 20 MT (\$0.80). Those in the south (Inhassunge and Namacurra) saw a median of 3 patients per week, while those in Alto Molócuè saw a median of 6 patients. The median number of formal HIV-related health care training sessions attended was one per healer, with 24% of healers reporting never having attended. It was not possible to document the source of training because few healers could remember the training sponsor.

HIV symptom and transmission knowledge

Traditional healers recognized the following as symptoms of HIV/AIDS: weight loss (53%), skin changes/rash (31%), body malaise (45%), and diarrhea (24%). The relationship between tuberculosis and HIV was recognized by only 14% of healers. Twenty (20; 14%) healers were unable to identify any symptoms of HIV/AIDS. In response to the open-ended question "How is HIV/AIDS transmitted?", 78% of healers reported sexual contact; 34% razors/blades; 7% blood; 13% unclean needles; and 1% mother-to-child. In multivariable-adjusted analyses (Table 2), male traditional healers were more likely than females to identify a higher number of correct methods for HIV transmission, as were persons with more formal education (every additional year improved the odds by 19% of identifying more methods of transmission). Training did not significantly correlate with knowledge: Those who had attended a single training session were actually less knowledgeable than those attending none, but those who attended ≥ 2 sessions had higher rates of HIV transmission knowledge (Table 2). All healers reported referring patients to hospitals if they felt they could no longer treat them.

Treating HIV/AIDS

As access to cART improves in rural Mozambique, there has been a push by MISAU to discourage traditional healers

TABLE 1. HEALER CHARACTERISTICS AND RESPONSE BY WILLINGNESS TO TREAT HIV

<i>Do you treat patients whom you think have HIV/AIDS?</i>	<i>No (n=111)</i>	<i>Yes (n=28)</i>	<i>Combined (n=139)</i>	<i>p-Value^a</i>
Age ^b	50 (41, 60)	49.5 (38.8, 55.2)	50 (40, 59)	0.3
Missing age, <i>n</i> (%)	6 (5.4%)	4 (14.3%)	10 (7.2%)	
Sex, <i>n</i> (%)				0.3
Female	56 (50.5%)	18 (64.3%)	74 (53.2%)	
Male	55 (49.5%)	10 (35.7%)	65 (46.8%)	
Education (years)	1 (0, 4)	2.5 (1, 4)	2 (0, 4)	0.08
Number of health trainings attended, <i>n</i> (%)				0.06
0	30 (27.0%)	3 (10.7%)	33 (23.7%)	
1	49 (44.1%)	19 (67.9%)	68 (48.9%)	
2 or more	32 (28.8%)	6 (21.4%)	38 (27.3%)	
Location, <i>n</i> (%)				<0.01
Alto Molócuè	39 (35.1%)	1 (3.6%)	40 (28.8%)	
Inhassunge	35 (31.5%)	13 (46.4%)	48 (34.5%)	
Namacurra	37 (33.3%)	14 (50.0%)	51 (36.7%)	
Rural/urban, <i>n</i> (%)				0.3
Rural	66 (59.5%)	20 (71.4%)	86 (61.9%)	
Urban	45 (40.5%)	8 (28.6%)	53 (38.1%)	
Civil status, <i>n</i> (%)				1.0
Divorced	4 (3.6%)	1 (3.6%)	5 (3.6%)	
Married	86 (77.5%)	22 (78.6%)	108 (77.7%)	
Single	1 (0.9%)	0 (0.0%)	1 (0.7%)	
Widowed	20 (18.0%)	5 (17.9%)	25 (18.0%)	
Number of spouses	1 (1, 1)	1 (1, 1)	1 (1, 1)	0.4
Number of previous spouses	1 (0, 1)	1 (1, 1)	1 (0, 1)	0.5
Number of children	5 (3, 8)	6 (4, 7.2)	5 (3, 8)	0.4
How long a healer? (years)	20 (10, 30)	13.5 (7, 23.5)	20 (8.5, 30)	0.2
Why did you become a traditional healer?, <i>n</i> (%)				0.6
Family	21 (18.9%)	3 (10.7%)	24 (17.3%)	
Spirits	70 (63.1%)	19 (67.9%)	89 (64.0%)	
Family and spirits	9 (8.1%)	4 (14.3%)	13 (9.4%)	
Other	11 (9.9%)	2 (7.1%)	13 (9.4%)	
Who taught you how to heal?, <i>n</i> (%)				0.95
Traditional healers (TH)	55 (49.5%)	13 (46.4%)	68 (48.9%)	
Spirits	48 (43.2%)	13 (46.4%)	61 (43.9%)	
TH and spirits	8 (7.2%)	2 (7.1%)	10 (7.2%)	
What do you treat? ^c				
Illness/symptoms consistent with HIV ^d	36 (32.4%)	10 (35.7%)	46 (33.1%)	
Drugging	43 (38.7%)	3 (10.7%)	46 (33.1%)	
Spirit illness	83 (74.8%)	23 (82.1%)	106 (76.3%)	
What treatments do you perform? ^c				
Herbs	110 (99.1%)	28 (100.0%)	138 (99.3%)	
Cut	94 (84.7%)	27 (96.4%)	121 (87.1%)	
Dance	65 (58.6%)	25 (89.3%)	90 (64.7%)	
Drums	61 (55.0%)	24 (85.7%)	85 (61.2%)	
What are the symptoms of HIV/AIDS? ^c				
Do not know	19 (17.1%)	1 (3.6%)	20 (14.4%)	
Weight loss	59 (53.2%)	14 (50.0%)	73 (52.5%)	
Skin changes/rash	26 (23.4%)	17 (60.7%)	43 (30.9%)	
Body malaise	49 (44.1%)	14 (50.0%)	63 (45.3%)	
Diarrhea	23 (20.7%)	10 (35.7%)	33 (23.7%)	
Fever	7 (6.3%)	4 (14.3%)	11 (7.9%)	
Mouth sores	1 (0.9%)	2 (7.1%)	3 (2.2%)	
TB	15 (13.5%)	5 (17.9%)	20 (14.4%)	
How do people get infected with HIV/AIDS? ^c				
Sex	82 (73.9%)	27 (96.4%)	109 (78.4%)	
Razors	38 (34.2%)	9 (32.1%)	47 (33.8%)	
Mother to child	2 (1.8%)	0 (0.0%)	2 (1.4%)	
Blood	5 (4.5%)	5 (17.9%)	10 (7.2%)	
Needles	13 (11.7%)	5 (17.9%)	18 (12.9%)	

(continued)

TABLE 1. (CONTINUED)

Do you treat patients whom you think have HIV/AIDS?	No (n=111)	Yes (n=28)	Combined (n=139)	p-Value ^a
What recommendations do you give to people who want to avoid HIV/AIDS? ^c				
Condoms	41 (36.9%)	18 (64.3%)	59 (42.4%)	
Do not share razors	10 (9.0%)	2 (7.1%)	12 (8.6%)	
Have one partner	54 (48.6%)	12 (42.9%)	66 (47.5%)	
Get tested	3 (2.7%)	0 (0.0%)	3 (2.2%)	
Believe there are conditions that a healer treats better than a doctor	49 (44.1%)	22 (78.6%)	71 (51.1%)	
Positive experience at clinic	107 (96.4%)	28 (100.0%)	135 (97.1%)	

^aTo compare the distribution of study characteristics by willingness to treat HIV, the authors employ χ^2 tests. Similarly, the authors use a two-sample rank sum test for continuous variables by willingness to treat HIV.

^bContinuous variables are reported as median (interquartile range).

^cPercentages may total greater than 100% because multiple answers may be provided.

^dHealers listed illnesses and symptoms they treat that were coded into broad categories. Illnesses and symptoms consistent with possible HIV infection (but not limited to HIV) included fever, weight loss, general malaise, skin lesions, and persistent cough.

HIV, human immunodeficiency virus; AIDS, acquired immune deficiency syndrome.

from treating HIV. Acknowledging this negative political environment, 80% of healers said they were not knowingly treating HIV. Among the 20% (n=28) of healers who said they were treating HIV, 12 (43%) indicated they were only willing to treat people with HIV when they also have *matoa* or *mbepo*, a chronic “spirit illness” with identical symptoms. These healers believed they were working to cure the origin of the illness, not just the symptoms. One (1) healer in Alto Molócuè stated, “The government cannot tell me what illnesses I know how to cure.”

Adjusting for age, gender, district, and education, there was a trend for healers with more formal HIV-related health training to claim to be effectively treating HIV (p=0.09) (Table 3). Healers who attended a single formal training session were more likely than those with no formal training to claim to treat HIV (odds ratio [OR]=3.3; 95% confidence interval [CI]: 0.9–12.7). Those who had attended ≥2 training sessions were even more likely to claim to be able to treat HIV (OR=6.6; 95% CI: 1.1–37.7). Only 1 healer (2.5%) from Alto Molócuè (the Lomwe-speaking district in the north of the province) claimed to treat HIV effectively, compared to

27% from the two southern Chuabo districts. In Namacurra, healers who had attended ≥2 training sessions had far greater odds of willingness to treat HIV than healers with no formal training (OR: 12.0; 95% CI: 1.1–130.6; p=0.04) and healers with one training session had nearly five times the odds (OR: 4.8; 95% CI: 0.5–43.3; p=0.2). In Inhassunge, healers with one training session had three times higher odds of willingness to treat HIV than healers with no formal training (OR: 3.0; 95% CI: 0.6–15.8; p=0.2).

General treatment practices

Herbs were used by all but 1 healer (99%) to treat illness. Herbs were often ingested (with chicken or other food), drunk as a tea, or could be “injected” by mixing directly with blood after cutting with a razor. Healers also commonly treated patients with drumming (85%) and dancing (90%) to cure perceived spirit possession and/or curses.

Attitudes toward the government medical system

When asked how allopathic program providers could better improve working relationships between traditional

TABLE 2. PREDICTORS OF INCREASED HEALER KNOWLEDGE OF HIV/AIDS TRANSMISSION

	Odds ratio	Lower 95%	Upper 95%	p-Value
Age (per 10 years)	0.76	0.55	1.04	0.08
Male	2.00	0.99	4.06	0.054
District				0.2
Namacurra (ref)	1			
Alto Molócuè	0.49	0.18	1.31	
Inhassunge	0.55	0.25	1.22	
Education (per level)	1.19	1.03	1.37	0.02
Health trainings				0.005
None (ref)	1			
1	0.29	0.12	0.68	
2 or more	1.50	0.54	4.13	

HIV, human immunodeficiency virus; AIDS, acquired immune deficiency syndrome.

TABLE 3. PREDICTORS OF HEALER WILLINGNESS TO TREAT HIV

	Odds ratio	Lower 95%	Upper 95%	p-Value
Age (per 10 years)	1.00	0.60	1.68	1.0
Male	0.71	0.26	1.96	0.5
District				0.03
Namacurra (ref)	1			
Alto Molócuè	0.048	0.005	0.46	
Inhassunge	1.23	0.45	3.35	
Education (per level)	1.08	0.89	1.32	0.4
Health trainings				0.09
None (ref)	1			
1	3.33	0.87	12.7	
2 or more	6.57	1.14	37.7	

HIV, human immunodeficiency virus.

healers and the medical clinics in their communities, several themes emerged (more than one answer was possible). Healers wanted to create a referral system where doctors and healers could refer patients to each other (25%), they wanted to receive increased training (29%), and wanted to work together in some form (81%). One healer from Alto Molócuè stated, "So I am asking that there be cooperation between us and the hospital. When [plans for cooperation] are being born there will be difficulties. But healers can help to expedite the process."

Direct observations

Observations of 24 treatment sessions were observed by one of the authors (CMA) in three districts (8 per district). All healers and patients who were approached agreed to be observed during their treatment session. Treatment sessions included discussions with patients about symptoms and their understanding of the illness, use of traditional mediums to divine the cause and treatment course, exchange of payment, and provision of treatment. Treatments included "injections" of herbs into the back and shoulders with razors, *bafu* (placing boiling herbs under the patient), as well as providing herbs and roots for future use in teas or meals at home. Injections were given with razors brought by the patients themselves. Healers used sticks or their bare hands to rub herbs into the razor cuts they made in a patient's skin. The sticks were reused with multiple patients. Healers exposed themselves routinely to patient blood during treatments as none used or owned gloves.

Discussion

Traditional healers interviewed in this study had a median age of 50 years and 2 years of formal education, were practicing high-risk activities (razor cutting), and were failing to refer HIV patients whose symptoms/signs of disease often went unrecognized. The gap in perception of the germ theory of disease versus spirit/curse origins is so wide as to suggest a completely different construct for the traditional healer's views of the pathogenic process. The willingness expressed by the majority of healers to engage the local formal health providers suggests that this gulf of perception and practice might be bridged.

It was found that health care training sessions conducted in Zambézia Province over the past few years were not impressive in imparting HIV knowledge; only healers with a minimum of two training sessions had evidence of increased HIV knowledge. Only 47 healers (34%) identified razors as a mode of transmission, but 138 (99%) used razors to inject herbs into the skin of their patients. Traditional healers had less HIV transmission/prevention knowledge than healers interviewed in South Africa.⁴³ The one-in-five proportion of healers interviewed who were actively treating HIV-positive people was similar to recent findings in South Africa, while healers in Tanzania were even more likely to provide treatment for patients they believed to have HIV.⁴³⁻⁴⁶ However, Mozambican healers may have purposely underestimated the treatments that they actually administered to HIV patients.

Healers who claimed to treat HIV had participated in more health care training sessions than those who believed

they could not treat the disease. Thus, training as conducted presently seems ineffective, judging from this critical metric. Proper rigorous evaluation of the impact and quality of training available to healers is needed, especially given this study's findings. It is plausible that healers who chose to attend additional training may have been predisposed to treat HIV (personality traits, higher status within community, or a desire for higher income) or that attending these sessions gave healers a paradoxically greater confidence in their abilities.

Even in a single province, there is considerable district-to-district variability in HIV treatment practices. In Alto Molócuè, healers were less likely to purposefully treat HIV. Three (3) explanations are posited. In Alto Molócuè, healers were often able to charge more than twice the fee of those in Namacurra or Inhassunge (100 MT versus 50 MT or 20 MT, respectively). Healers in Alto Molócuè have approximately twice the patient load per week as healers in Namacurra or Inhassunge (6 patients versus 3 patients). Also, there are fewer healers in Alto Molócuè than in the two southern districts. Hence, there may be less economic pressure on Alto Molócuè healers to treat HIV disease.

In Mozambique, HIV/sexually transmitted infections training of traditional healers began as early as 1991; while healers were eager to participate, there remained confusion about whether AIDS was a curable disease.¹⁵ In the Central African Republic, healers were incorporated into the AIDS program relatively early in the fight against HIV.⁴⁷ In South Africa, small projects have been promulgated to increase the knowledge and skills of traditional healers and to encourage referral of patients with infectious diseases.^{18,48-50} In Tanzania, healers were engaged with the health care system, both to provide treatment and psychosocial support to patients living with HIV/AIDS.⁵¹ Programs incorporating traditional healers into the health care system are in the process of development elsewhere in Africa.^{44,50,52-54} In Tanzania, the Tanzania AIDS Working Group has united traditional medicine and HIV allopathic care to improve health outcomes, social support, and financial support of HIV-positive patients.⁵⁵ While the patient outcomes have not been published, evidence suggests success in morbidity due to coinfections. The collaboration between two groups is potentially a model for successful collaboration among healers and allopathic practitioners.

We found no association of formal training and referral of suspected HIV-infected persons, a cautionary note as to the utility of education alone, without consideration of healers' economic concerns. While financial incentives for referring patients have not been employed, they may be more effective than education alone to co-opt healers who are living in poverty and are desperate for work. Given the lack of information about the quality of the health care training sessions healers attended in the past, FGH has begun a program of training traditional healers in Namacurra and Inhassunge about HIV/AIDS, tuberculosis, malaria, nutrition, mental health, and diarrhea. The authors have also designed (in association with the Ministry of Health) and are piloting the use of referral forms for traditional healers. Healers indicated that they wanted "credit" for referring a patient, and it is believed the referral forms will assist in this effort as well as allow identification of common illnesses being referred. With these two interventions, it can be learned whether improved

knowledge and a formal relationship between healers and the health system are sufficient behavioral change strategies, or if there is a need to create a financial incentive system to improve patient referral rates.

Strengths of this study include the multiple communities surveyed and the ethnographic techniques used. Several limitations in this study are noted. A random sampling was not conducted, so results may be skewed in ways that are not appreciated, though the authors did have two forms of referral—peers and community members. Results from rural Mozambique may not generalize to urban centers, though the similarity of many of the current findings to those elsewhere suggest that these findings may apply elsewhere. The inferences as to the relative ineffectiveness of educational interventions may be distorted by selection bias of those who participated and those who did not; however, there surely does not seem to be evidence of salutary impact, given these caveats.

Conclusions

Traditional healers, particularly in the northern part of the province, may be ready for further education and engagement. If they could be integrated into the MISAU health care system for HIV screening and referral, and as cART advocates, they might help facilitate patient access and adherence to HIV care. At present, evidence suggests that traditional healers are impeding such access and are not benefiting from educational efforts as provided through 2009. As respected members of their communities, traditional healers are in a prime position for improving health-seeking behavior of persons living with HIV/AIDS, potentially providing psychosocial support from a culturally appropriate source. Given the essential need for task shifting to care for the HIV patients in sub-Saharan Africa,^{56–59} the authors believe it is worth the effort to try to develop collaborative programs to engage such potent potential allies.

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Address correspondence to:
Carolyn M. Audet, PhD
Vanderbilt Institute for Global Health
Vanderbilt University School of Medicine
2525 West End Avenue
Suite 725
Nashville, TN 37203
E-mail: carolyn.m.audet@vanderbilt.edu