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Task-shifting 'gold standard' clinical assessment and safety planning for suicide risk among people living with HIV: A feasibility and fidelity evaluation in Tanzania

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Abstract

Background: Suicide is a leading cause of death among people living with HIV (PLWH) worldwide, with suicide deaths occurring twice as frequently among PLWH than among the general public. In Tanzania, resources for mental health care are sorely lacking, with 55 psychiatrists and psychologists providing treatment for 60 million people. In light of this shortage, non-specialists play a crucial role. The objective of this study was to assess feasibility of implementing task-shifted screening, assessment, and safety planning for suicide risk among PLWH.

Setting: Two adult HIV clinics in Kilimanjaro, Tanzania.

Methods: Registered professional nurses in the HIV clinics were trained to administer brief screening of suicidal ideation in the past month. Patients experiencing suicidal ideation were

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referred to Bachelor's-level counselors for further assessment and safety planning, supervised by specialist providers who reviewed audio recordings for quality assurance.

Results: During 180 days of implementation, nurses screened patients attending 2745 HIV appointments. Sixty-one (2.2%) endorsed suicidal ideation and were linked to further assessment and safety planning. We cross-checked screening with clinic attendance logs on seven random days and found high fidelity to screening (206/228 screened, 90%). Quality assurance ratings demonstrated key assessment pieces were consistently completed (mean=9.3/10 possible), with "Good" to "Excellent" counseling skills (mean=23.7/28), and "Good" to "Excellent" quality (mean=17.1/20), including appropriate referral for higher levels of care.

Conclusions: Brief screening can be implemented and paired with task-shifted counseling to facilitate high-quality assessment of suicide risk. This model shows excellent potential to extend mental health services for PLWH in low-resource settings.

Keywords

Counseling; HIV; Mental health; Referral and consultation; Suicide prevention; Task-shifting

Background

Suicide is a leading cause of death among people living with HIV (PLWH) worldwide, and PLWH are twice as likely to die by suicide compared to the general public. ^{1–3} Globally, more than 700,000 people die by suicide each year, and more than 75% of these deaths occur in low- and middle-income countries (LMICs). ⁴ The true burden of suicide may be even higher, as reporting challenges, stigma, and criminalization of suicidal behavior often contribute to under-reporting or misclassification of suicide as a cause of death in many LMIC settings. ^{5,6}

The elevated burden of suicide in LMICs is due to multiple factors, including socioeconomic challenges and other social determinants of health and well-being. Additionally, in many LMICs, resources for the assessment and treatment of suicide risk are sorely lacking. Page 19. In Tanzania, only 55 psychiatrists and psychologists provide mental health treatment for more than 60 million people. In light of this remarkable shortage of formal treatment, nurses and non-specialists play a crucial role in identifying serious mental health challenges such as suicide risk among PLWH in Tanzania. However, task-sharing approaches must be utilized with caution to avoid the perception of "task-dumping," or assigning new responsibilities to healthcare workers who may already be overtaxed and under-resourced in their existing roles. 13,14

Beyond assessment, very few strategies for suicide prevention have been developed for or adapted to African settings. ¹⁵ We conducted a scoping review of counseling interventions for suicide prevention in Africa and identified only thirteen studies, including only five clinical trials. ¹⁶ Findings from several studies showed reductions in suicidality among intervention participants; however, the mechanisms of change for suicide prevention were poorly articulated, presenting serious challenges for replicability. ¹⁶

In high-resource medical settings, the 'gold standard' for assessing suicide risk involves universal screening of patients at elevated risk for death by suicide, such as PLWH; individuals who screen positive are then referred for a clinical interview with a mental health professional, guided by an evidence-based assessment tool. ¹⁷ Patients identified as having considerable risk (i.e., a plan and/or intent to die by suicide) are guided to develop a safety plan, which involves identifying and documenting personal, social, and professional resources to avert suicide. ^{18,19} Accompanying brief counseling is focused on identifying strengths, reasons for living, and eliciting hope and agency. ^{20,21} Throughout the assessment and counseling process, the clinician assesses the need for higher levels of care including inpatient hospitalization. ¹⁷

Given the disproportionate burden of suicide in LMICs and extreme shortages of mental health specialists, there is a critical need for brief yet effective interventions for suicide prevention. At the outset of this study, we were unable to identify any suicide interventions adapted to the Tanzanian setting. To address this need, we developed a suite of task-shifted services for brief screening, assessment, and safety planning for suicide risk among PLWH. The objective of this research was to assess the feasibility of implementing these resources in two adult HIV clinics in Kilimanjaro, Tanzania.

Methods

In Tanzania, HIV care is provided by Care and Treatment Centers (CTCs), most often embedded in hospitals or clinics. This research was conducted at two adult CTCs in the Kilimanjaro region of Tanzania. The first clinic is located within a large referral hospital and the second is located within a small community hospital, both in urban areas. Together, the clinics see approximately 4000 PLWH for regular HIV care, with a local adult HIV prevalence of approximately 4.8%.

Procedures

We trained registered professional nurses in the HIV clinics to administer a single screening item assessing suicidal ideation to all adult PLWH attending appointments at both study CTCs. Patients who screened positive for suicidal ideation were referred by the HIV nurses to meet with a Bachelor's-level counselor for further assessment and safety planning. One of these counselors had completed a Bachelor's of Psychiatry degree, which is the entry-level counselor credential in Tanzania, and the other was a non-specialist with extensive prior training and experience in providing brief counseling in research settings.

Nurses briefly explained the study and participants who indicated interest were accompanied to a private research office near the clinic to meet with the counselor. Participants who screened positive but were not interested in the study were to receive a referral for standard of care psychiatric services; however, in the current study, all participants who screened positive for suicidal ideation agreed to meet with the study counselor and all were enrolled in the study.

Patients were eligible to participate in this study if they were 18 years of age or older and able to speak Swahili or English. All participants provided written informed consent after

screening, prior to engaging in further assessment and counseling. During the screening and enrollment process, clinic nurses and study staff assessed whether patients were medically and cognitively capable of providing informed consent and completing the study procedures. Patients who screened positive for suicidal ideation but were not physically or cognitively capable of participating in the research were referred to a hospital-based psychiatry service.

Upon enrollment, the Bachelor's-level counselors conducted a clinical assessment using the Columbia-Suicide Severity Rating Scale (C-SSRS) Full Version²² and a structured safety planning intervention for all enrolled participants.²³ The C-SSRS assessment was audio recorded for later review and quality assurance, then translated and transcribed by a skilled bilingual interpreter. The safety planning intervention was not recorded due to confidentiality concerns, given its focus on naming and providing contact information for people who can provide support. Participants received 10,000 Tanzanian shillings (approximately \$4.50 U.S.) for time and transportation costs. At the conclusion of their participation, all participants received referral information for standard of care psychiatric services.

Prior to the start of the study, counselors received two weeks of daily training provided by two Tanzanian psychiatrists and a U.S.-based counseling psychologist. Training focused on general counseling skills, the study assessment and intervention, and suicide risk management. As part of training, counselors completed several mock assessment and safety planning sessions. Counselors were required to demonstrate acceptable fidelity and quality of care in mock sessions prior to engaging with patients, assessed by the Quality Assurance procedures described under "Measures" below.

After study enrollment began, counselors participated in one hour per week of ongoing clinical supervision with the supervising psychiatrists and psychologist, who reviewed audio recordings of assessments each week for quality assurance and provided verbal feedback to the counselors.

All intervention and assessment materials were translated to Swahili, back-translated to English, and revised by the research team in collaboration with partners at the HIV clinics to maximize linguistic and cultural equivalence. The study received ethical approval from the institutional review boards of the Tanzanian National Institute for Medical Research, Kilimanjaro Christian Medical Centre, and the Duke University Health System.

Measures

Suicidal Ideation.—HIV nurses assessed suicidal ideation using one yes/no item derived from the C-SSRS Screen Version²², "In the last month, have you had any actual thoughts of killing yourself?" Upon enrollment, Bachelor's-level counselors completed a full clinical assessment of suicide risk for all enrolled participants using the C-SSRS Full Version.²²

Quality Assurance.—For each weekly supervision session, one audio recorded C-SSRS assessment was selected, reviewed, and rated by the supervisors for quality assurance. In total, 14 recordings were assessed for quality assurance during this study period. Quality assurance was assessed using an adapted Enhancing Assessment of Common Therapeutic

Factors (ENACT) rating $scale^{24}$, which includes ratings of fidelity (completion of core assessment components), quality, and counseling skills (e.g., eliciting hope, active listening). Five fidelity items were rated as 0 – "Not Done", 1 – "Partial", or 2 – "Completed" for a total score of 0 to 10. Five quality and seven counseling skills items were rated on a scale of 0 – "Not Done" to 4 – "Excellent" for total scores of 0 to 20 (quality) and 0 to 28 (counseling skills).

Statistical Analysis

We assessed the proportion of patients screening positive for suicidal ideation during the 180-day (26-week) study period. To assess nurse fidelity to screening, we compared paper screening forms to clinic attendance records on seven random days, reported as a simple proportion. When patients were not screened, we followed up verbally with the nurses to record the reason. For the quality assurance forms, we calculated item and subscale descriptive statistics for fidelity/completion, quality, and counseling skills. For fidelity, we identified a pre-established threshold of 1.8 or greater (out of 2 possible, indicating 90% completion of core assessment components). For quality and counseling skills items, we identified a pre-established threshold of 3 or greater (out of 4 possible, representing "Good" to "Excellent" quality or skills) as acceptable. We also conducted Pearson correlations to assess changes in assessment fidelity/completion, quality, and counseling skills over the 26 weeks of data collections.

Results

During 180 days of implementation, nurses screened patients attending 2745 HIV appointments. Of these, 61 (2.2%) endorsed suicidal thoughts, all of whom were referred for assessment and safety planning and enrolled in the study. On seven random days, we found high fidelity to screening (206/228 patients screened, 90%). Among the 22 patients not screened on these days, 11 were due to nurses forgetting or neglecting to ask the screening question, 9 were due to competing nurse obligations, 1 was due to a patient's acute emotional distress, and 1 was due to acute medical instability. The patient with acute emotional distress was referred directly to the psychiatry service at the hospital. The patient with acute medical instability was referred directly to an inpatient medical unit. To our knowledge, no study participants attempted suicide or died by suicide during the study period.

Three mental health professionals rated quality assurance for audio recordings of fourteen C-SSRS assessments. Ratings demonstrated that counselors consistently completed key assessment pieces (mean=1.88/2.00 possible, SD=0.19), with "Good" to "Excellent" quality (mean=3.43/4.00, SD=0.46), and "Good" to "Excellent" counseling skills (mean=3.46/4.00, SD=0.42).

Fidelity/completion item scores were consistently high, all met the pre-established threshold for fidelity, and no items were identified as specifically strong or challenging in the assessment. For quality, ratings were slightly lower for initial risk identification (mean=3.30) and assessment of intensity of ideation (mean=3.33), with supervisor feedback commonly focusing on the need for more clarity on the timing of onset of suicidal ideation,

plan, and intent. Quality was higher for assessing potential lethality (mean=3.61). For counseling skills, scores were slightly below the mean for eliciting hope (mean=3.09) and acknowledging the patient's experience (mean=3.20), and slightly above the mean for allowing expression of difficult emotion (mean=3.62) and avoiding giving advice (mean=3.61). Overall means for all items exceeded the pre-established threshold of 3.00 for acceptable assessment quality and skills. See Table 1 for additional detail.

Pearson correlations showed no significant changes over time (i.e., which week they were enrolled in the study) for fidelity/completion (r=-.041, p=.891) nor for assessment quality (r=.268, p=.354), both of which were consistently high across the study period. Counseling skills were high at baseline and significantly improved over the course of the study (r=.544, p=.044). See Figure 1 for additional detail.

Discussion

We developed a suite of task-shifted services for brief screening, assessment, and safety planning for suicide risk among PLWH. The objective of this research was to assess the feasibility of implementing these resources in two adult HIV clinics in Kilimanjaro, Tanzania. We observed high fidelity to suicide screening and referral among registered professional nurses in the HIV clinics. Upon referral, Bachelor's-level counselors consistently completed key assessment pieces with high fidelity, quality, and counseling skills.

Strong protocols exist for the exploration of suicide risk in sub-Saharan Africa, yet interventions are sorely lacking. 15,25 This may be due to concerns about working with a high-risk population, particularly in settings where mental health resources are limited. 15 With this demonstration that task-shifting can be effectively implemented to improve early screening, assessment, and access to safety planning, it is plausible for mental health specialists to redirect effort to the training and supervision of non-specialists and the treatment of select, higher-risk cases. This type of redistribution of tasks to improve reach and efficiency of care is a historical hallmark of task-shifting approaches. 26

HIV care in Tanzania has been successfully decentralized from larger tertiary hospitals to smaller hospitals and clinics throughout the country.^{27,28} These efforts have been extremely effective at improving access to HIV care; however, smaller clinics rarely have specialists available, including mental health providers. To maximize the benefits of task-shifting, governments should universally integrate suicide screening and prevention efforts in HIV care.²⁹

Future studies should first assess the adequacy of safety planning for suicide prevention and the additional human resource capacity needed to effectively reduce suicide attempts and deaths by suicide. For higher acuity cases, including patients at immediate risk for suicide, it may be necessary to integrate other innovative strategies for implementation. This may include telehealth links to remote counselors, the establishment of national mental health crisis hotlines, and improving emergency transportation options to assist patients in reaching hospitals where psychiatric services exist. 30,31 Similar efforts are also needed to integrate

task-shifted assessment and intervention for suicide risk among people experiencing other serious health conditions, such as cancer and traumatic injury.^{32,33}

A limitation of this study is that we did not assess the quality of safety planning due to confidentiality concerns related to recording these sessions. However, we believe ratings of suicide risk assessment and associated counseling provided a reasonable picture of the quality of all services provided. Finally, these data were focused on feasibility and did not assess patient acceptability of these resources, which will be a crucial area for future research.

Conclusions

Suicide is a leading cause of death among PLWH, yet few resources have been implemented in low- and middle-income countries to assess and intervene for suicidal ideation. In contexts where few mental health providers are available, task-shifting is an essential approach for improving capacity. In this study, we demonstrated that brief screening can be implemented by HIV clinic nurses and that the historical 'gold standard' clinical interview by a psychiatrist or psychologist can be effectively task-shifted to non-specialist counselors. This model shows excellent potential to extend mental health services for PLWH in low-resource settings.

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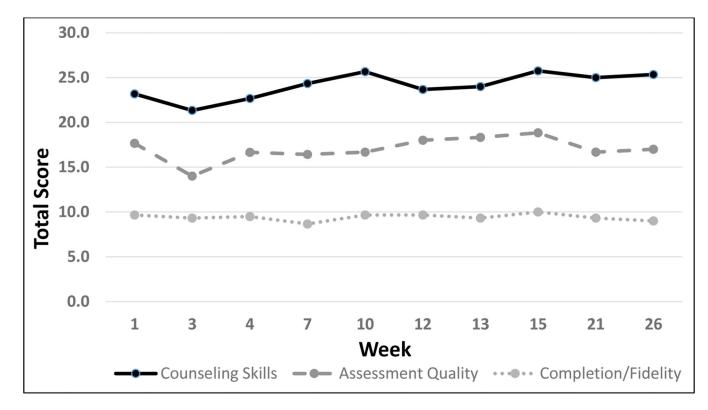


Figure 1.Ratings of C-SSRS Completion/Fidelity, Quality, and Counseling Skills Over Time *Note:* Total Score is the sum of the item scores for each section of the ENACT rating scale

Table 1.

Mean Item Ratings for C-SSRS Assessment Fidelity, Quality, and Counseling Skills

Fidelity/Completion (out of 2.00 possible)								
Item	Risk Identification	Intensity of Ideation	Past Attempt	Suicidal Behavior	Lethality	Total		
Mean Score	1.86	1.86	1.91	1.89	1.88	1.88		

Assessment Quality (out of 4.00 possible)								
Item	Risk Identification	tification Intensity of Ideation Past Attempt Suicidal F		Suicidal Behavior	Lethality	Total		
Mean Score	3.30	3.33	3.44	3.38	3.61	3.43		

Counseling Skills (out of 4.00 possible)								
Item	Non- Judgmental	Elicits Hope	Expresses Warmth	Acknowledges Experience	Active Listening	Allows Emotion	Avoids Advice	Total
Mean Score	3.43	3.09	3.30	3.20	3.48	3.62	3.61	3.46