Peer Support and Engagement, HIV Care, and Sexual Behaviors Among PLHIV Not on ART: A Randomized Trial

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Background

- People living with HIV (PLHIV) not on antiretroviral therapy (ART) benefit from engagement in care, a basic care package (BCP) (cotrimoxazole prophylaxis, safe water vessels, and insecticide-treated bednets), and decreasing risky sexual behaviors.
- Peer support may be an effective, economical, and sustainable intervention to address these issues in an integrated, combination implementation approach.[1]
- We conducted the **PeerCARE** (**Peer C**ommunity **A**ssistant in **R**etention and **E**ngagement) study, a randomized effectiveness trial on the impact of peer support on HIV engagement, care, and prevention outcomes among PLHIV not on ART in Rakai, Uganda.

Methods

Trial design-Parallel, two-arm, individually randomized controlled effectiveness trial. Effectiveness (pragmatic) trials measure the impact of interventions in "real world" settings with design methods chosen to maximize relevance to implementation.[2]

Study Setting: Rakai District (pop. ~400K) in southwestern Uganda is mostly rural. The Rakai Health Sciences Program (RHSP) provides HIV services in Rakai including HIV Testing and Counseling (HTC) and ART. HTC is provided to "walk-in" patients at RHSP-supported clinics and to all participants of the Rakai Community Cohort Study (RCCS), a population-based survey of 54 communities which include 4 Lake Victoria fishing communities.

Participants. From mid-2011 to mid-2012, we attempted to recruit persons recently identified by RHSP as HIV-infected through HTC but not known to be on ART. Participants were approached within 8 weeks after HTC and, if consented, immediately randomized to peer support (see below) or standard of care and followed for about one year. Standard of care was referral to local RHSP clinics.

Peer Support Intervention Description: The intervention used a situated Information, Motivation, and Behavioral Skills (sIMB) conceptual framework.[3] Recruitment-12 peers were selected from current RHSP patients. Eligibility included HIV-positive status, not on ART, demonstration of good BCP adherence, literacy, and comfort with disclosing serostatus to peers. Training-Peers underwent a two-day residential training. Topics covered included: confidentiality, disclosure, counseling techniques, motivational interviewing skills, engagement in care, BCP, ART, and condoms. Visit Tasks-Peers attempted to make an initial visit to assigned participants within two weeks of recruitment. Peers then visited each participant monthly. During visits, peers performed 3 categories of activities: *Assess*-general clinical status, clinic attendance, BCP adherence, risky sexual behaviors; *Support*-provide psychosocial support, encouragement, information on and reminders of clinic appointments and the BCP, and counseling and education on reducing risky sexual behaviors; *Access*-provide access to condoms, BCP supplies, and triage to higher level care if necessary. Logistics-Peers were assigned ~15-30 participants each, provided with work supplies including a mobile phone, remunerated, and supervised by two part-time coordinators.

Study Outcomes/Statistical Analyses: Participants were administered a baseline and end of study survey assessing engagement in care, BCP use, sexual behaviors, and sIMB domains. Log binomial analyses with robust standard errors were used to calculate prevalence risk ratios with 95% Confidence Intervals (CIs).

Results

- 431 participants were enrolled and followed June 2011-July 2013, see Figure 1.
- Baseline characteristics were balanced, see Table 1.

Figure 1: Study flow diagram.

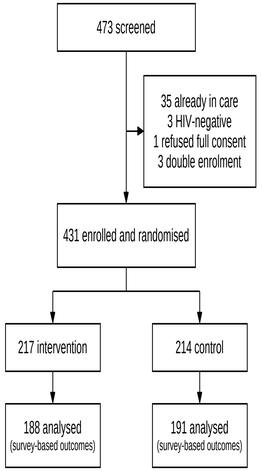


Table 1: Baseline characteristics.

Characteristic	Intervention	Control
No subjects	217	214
Female, n (%)	132 (60.8)	141 (65.9)
Age, median (IQR), years	30.0 (26-37)	30.0 (27-36)
Recruitment background		
Generalized population cohort	82 (37.8)	65 (30.4)
Fishing community cohort	63 (29.0)	70 (32.7)
"Walk-Ins," non-cohort	72 (33.2)	79 (36.9)
Travel time clinic, median (range), minutes	30.0 (2-180)	26.5.0 (1-240)
How often sleep under bednet		
Always	71 (57.3)	88 (67.7)
Sometimes/Never	56 (42.7)	42 (32.3)
Own safe water vessel	13 (6.0)	11 (5.1)
Taking Septrin	88 (40.6)	98 (45.8)
Alcohol use	126 (58.1)	119 (55.6)
Any sex past 12 months	195 (89.9)	191 (89.3)
>1 sexual partner past 12 months	84 (43.1)	86 (45.0)
Used condom past 12 months	93 (47.7)	94 (49.2)
Visited RHSP clinic	130 (59.9)	135 (63.1)

Study Outcomes

- After a median follow-up of 363 days (IQR 351-373), 87% of intervention and 89% of control participants completed the end of study survey (p=0.63). See Table 2 for key outcomes.

Table 2: Study Outcomes, All Participants and Participants Not in Care at Baseline

Outcome	All Participants				Participants Not in Care at Baseline			
	Intervention n/N (%)	Control n/N (%)	PRR (95% CI)	p value	Intervention n/N (%)	Control n/N (%)	PRR (95% CI)	p value
In Care[1]	**174/188 (93%)**	**159/191 (83%)**	**1.11 (1.03-1.20)**	**0.006**	**67/78 (86%)**	**42/70 (60%)**	**1.43 (1.16-1.77)**	**0.001**
Initiated ART[2]	68/188 (36%)	66/191 (35%)	1.05 (0.80-1.37)	0.74	24/78 (31%)	15/70 (21%)	1.43 (0.82-2.51)	0.21
Initiated Cotrim[3]	**169/188 (90%)**	**154/191 (81%)**	**1.11 (1.02-1.21)**	**0.012**	**64/78 (82%)**	**42/70 (60%)**	**1.37 (1.10-1.70)**	**0.005**
Bednet Adherent[4]	88/188 (47%)	90/191 (47%)	0.99 (0.80-1.23)	0.95	41/78 (53%)	29/70 (41%)	1.27 (0.89-1.80)	0.18
Water Vessel Adherent[5]	**42/188 (22%)**	**28/191 (15%)**	**1.52 (0.87-2.35)**	**0.06**	**17/78 (22%)**	**3/70 (4%)**	**5.09 (1.55-16.7)**	**0.007**
Any Condom Use[6]	105/164 (64%)	97/166 (58%)	1.09 (0.92-1.30)	0.30	45/70 (64%)	35/65 (54%)	1.19 (0 .90-1.59)	0.22
Multiple sexual partners[7]	59/188 (31%)	48/191 (25%)	1.25 (0.90-1.72)	0.18	22/78 (28%)	22/70 (31%)	0.90 (0.55-1.47)	0.67

[1]Any care vs. none; [2]Yes/No; [3]Yes/No; [4]Always Use vs Other; [5]Always Use vs. Other; [6]Any condom use past 12 months vs. Other, only those reporting any sexual activity over past 12 months included; [7]>1 Partner vs. Other.

Limitations

- Self-reported data may be subject to biases and inaccuracies (clinic-based outcomes will be assessed in future analyses).
- Generalizability of findings may be limited, though 3 recruitment backgrounds were included.
- Some outcomes of interest had small numbers of events.

Conclusions

- PLHIV not on ART randomized to a peer support intervention were more likely to report being in care, initiating cotrimoxazole prophylaxis, and adherence to safe water vessel use at one year of follow-up.
- This effect appeared to be most apparent in participants not already in care at baseline.
- No effect of the intervention was observed on ART initiation though modest numbers of events may have limited study ability to detect significance.
- No effect of the intervention was observed on sexual behaviors.
- Peer support may be an effective intervention to address several care and prevention needs of PLHIV not on ART.

References

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