RCT of 2 Behavioral Counseling Interventions for Smoking Cessation in People With HIV in Botswana

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Background

- People with HIV (PWH) ~3x > smoking than gen pop
- ↓ response rate for cessation treatments
- Standard treatment: counseling + pharmacotherapy (e.g., nicotine replacement therapy, varenicline)
- Pharmacotherapy currently cost prohibitive in LMICs
- Limited innovation in behavioral treatments for smoking
- No strategies tailored to LMIC setting
- Behavioral Activation/Problem Solving (BAPS) developed from depression counseling strategies and showed promise in pilot with ~35% quit rate at 10 weeks

Hypothesis

Ha: BAPS will outperform Standard Counseling (SC) with respect to quit rate in daily smokers with HIV

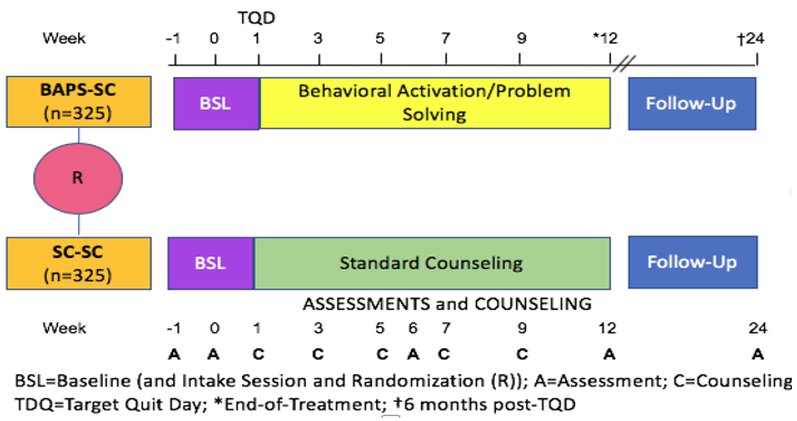
Methods

- Study title: Thotloetso ("Encouragement") Trial
- Randomized Controlled Trial with 1:1 allocation to BAPS vs. SC, stratified by baseline depression symptoms
- Delivery of counseling by phone
- Eligibility
  - HIV+
  - Plasma HIV RNA<1000 copies/ml at last measure within 6 months of enrollment
  - Daily cigarette smoker
  - No plan to move away from greater Gaborone within subsequent 9 months
  - Absence of uncontrolled substance use (e.g., alcohol) or uncontrolled severe mental illness

Outcomes

- Primary: no smoking for prior 7 days at week 24 confirmed by exhaled CO≤8 ppm
- Secondary: confirmed quit at week 10; time to lapse (first cigarette after prior abstinence); time to relapse (daily cigarette for 7 days after abstinence)

Thotloetso Trial Schema



BSL=Baseline (and Intake Session and Randomization (R)); A=Assessment; C=Counseling
TDQ=Target Quit Day; *End-of-Treatment; †6 months post-TQD

Behavioral Activation/Problem Solving (BAPS) and Standard Counseling (SC) resulted in high quit rates (>35%). Next steps include establishing a national smoking cessation counseling program.

Baseline Characteristics

Characteristic	Overall	BAPS	SC	Standardized mean difference
	N=651	N=328	N=323	
Age, median (IQR), years	44 (38, 49)	44 (38, 49)	44 (39, 49)	-0.04
Female sex	110 (17%)	57 (17%)	53 (16%)	0.02
High depression score	386 (59%)	196 (60%)	190 (59%)	-0.05
Hazardous EtOH use	130 (20%)	56 (17%)	74 (23%)	-0.15

Biologically Confirmed Quit Results

Week	Depression stratum	BAPS n=328 high=196 low=132	SC n=323 high=190 low=133	p value	OR (95% CI)	Breslow-Day p value
26	All	122 (37%)	125 (39%)	0.6775	0.93 (0.68, 1.28)	0.2008
	High	83 (42%)	76 (40%)	0.6395	1.10 (0.73, 1.65)	
	Low	39 (30%)	49 (37%)	0.2073	0.72 (0.43, 1.20)	
10	All	121 (37%)	138 (43%)	0.1284	0.78 (0.57, 1.07)	0.3346
	High	76 (39%)	79 (42%)	0.5743	0.89 (0.59, 1.34)	
	Low	45 (34%)	59 (44%)	0.0869	0.65 (0.39, 1.07)	

Limitations

- Availability of highly trained and supervised interventionists may not be feasible in many LMIC settings
- Effect when paired with pharmacotherapy currently unknown

Conclusions

- Both BAPS and SC resulted in high quit rates
- While generally not statistically significant, most analyses favored standard counseling
- Next steps should include identification of affordable pharmacotherapy for combination treatment
- LMICs should consider establishing a telephone-based national program for smoking cessation counseling

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