ART Adherence and Social Network Structure and Function among HIV-Infected Women in Cape Town, South Africa

**Marta Mulawa[1], Shannon Elliott[1], Allison Geary[2], Alexander Volfovsky[3], James Moody[4], John Joska[5], Kathleen Sikkema[1,6]**

[1]Duke Global Health Institute, Duke University, [2]Trinity College of Arts and Sciences, Duke University, [3]Department of Statistical Science, Duke University, [4]Department of Sociology, Duke University, [5]Department of Psychiatry and Mental Health, University of Cape Town, [6]Department of Psychology and Neuroscience, Duke University

Bass Connections in Information, Society & Culture

Background

- Suboptimal adherence to antiretroviral therapy (ART) is widespread[1]
- Non-adherence leads to increased morbidity, mortality, and forward transmission of HIV[2,3]
- Social networks likely influence adherence to ART[4]
- Few studies have examined these factors among people living with HIV
- Traditional methods of collecting social network data are burdensome[5]
- **We customized and pilot-tested a novel tablet-based network data capture instrument (Network Canvas[6]) to collect social network data among Xhosa-speaking women living with HIV in South Africa**

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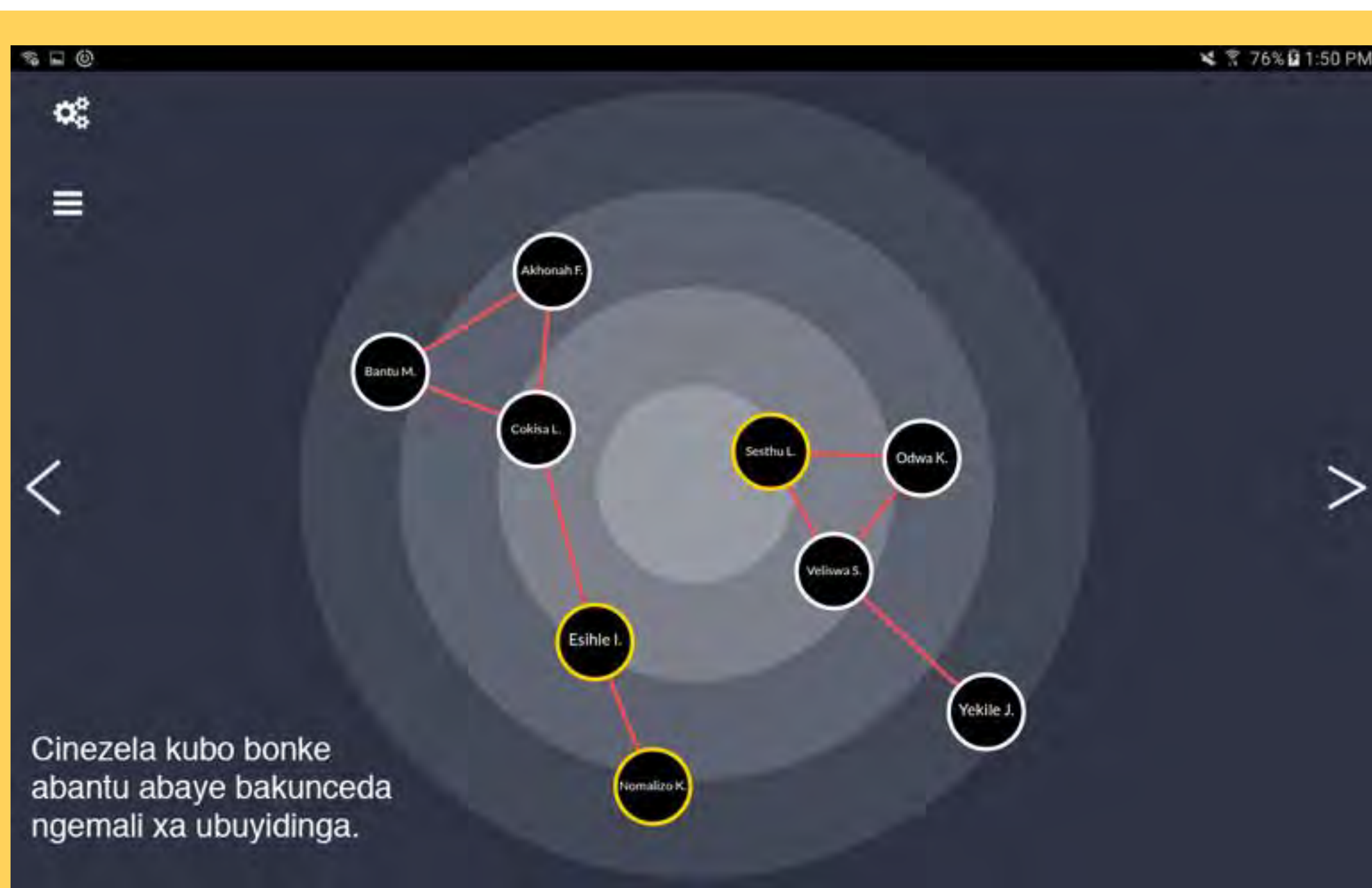
Screenshot of customized tablet-based social network data collection tool (Network Canvas[6]) used with Xhosa-speaking participants in Cape Town, South Africa

Purpose

- The purpose of this study was to
  1. Examine the structure and function of participants' social networks
  2. Explore associations between network characteristics and participants' ART adherence
  3. Evaluate the feasibility and acceptability of collecting this type of data

Methods

- We enrolled a convenience sample (n=21) from a cohort of HIV-infected women (n=64) from an ongoing trial in a peri-urban setting in Cape Town, South Africa
- ART adherence (>90%) was measured in the parent trial through medical record abstraction of pharmacy visits and refill data
- Sub-study participants:
  - Enumerated their social networks
  - Described their networks' functionality
  - Provided feedback on their experience with the tool
- Data were analyzed in R and SPSS

Our Team Member, Shannon Elliott, trains Research Staff at University of Cape Town

Results

- Two-thirds (66.7%) of participants were adherent over the 6-month study period.
- Adherent participants reported being given a place to stay and receiving help getting to a medical appointment from a greater proportion of their social networks compared to non-adherent participants (30.2% vs. 8.8%; p=.04; 43.8% vs. 17.2%; p=.007, respectively).

Network Function	Adherent (n = 14)	Non-Adherent (n = 7)
	Mean (SD)	Mean (SD)
Instrumental Support		
Gave Money	61.1 (19.0)	49.0 (26.1)
Gave a Place To Stay	30.2 (30.3)	8.8 (13.1)*
Emotional Support		
Talked to About Personal / Private Matters	58.9 (23.5)	56.7 (25.6)
Medical-Specific Social Support		
Provided Information on Medical Services	40.5 (21.2)	37.1 (24.5)
Helped Get to Medical Appointment	43.8 (27.5)	17.2 (12.6)**
Helped With Medications	41.7 (24.9)	40.7 (16.9)

- Structural network characteristics were not significantly associated with ART adherence.

Network Structure	Adherent (n = 14)	Non-Adherent (n = 7)
	Mean (SD)	Mean (SD)
Network Size	7.00 (3.40)	7.14 (3.81)
Edges	21.71 (24.62)	26.57 (27.49)
Density	0.47 (0.19)	0.54 (0.19)
Diameter	2.00 (0.56)	2.71 (1.60)
Clusters	1.93 (1.21)	1.29 (0.76)

- High levels of satisfaction with the instrument were reported, supporting the acceptability and feasibility of using this method to collect social network data in this setting.

Conclusions

- Collecting rich social network data is acceptable and feasible using this tablet-based instrument[1]
- We found preliminary evidence that functional social network characteristics may be associated with ART adherence among people living with HIV
- Functional social network characteristics should be further examined so as to expand our understanding of the factors shaping ART adherence
  - Social networks could be possible point of leverage for future interventions
- We found evidence that participants support the idea of using technology to engage with their social networks, particularly about medical needs and problems

Literature Cited

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Contact Information

Marta Mulawa, M.H.S., Ph.D.
Duke Global Health Institute
marta.mulawa@duke.edu
(919) 681-3540