The feasibility and efficacy of peer-education intervention (RCT) among people living with HIV/AIDS in Guangzhou, China

Yan Guo, Ph.D.
School of Public Health, Sun Yat-sen University

Introduction to Clinical Research
July 25, 2014
About 780,000 people living with HIV/AIDS (PLWHA) in China in 2011 and 56% of PLWHA did not know about their HIV seropositive status.

Many of the people who were at risk did not get HIV tested or did not seek HIV treatment due to stigma or lack of needed information and support.

Many PLWHA still engage in high risk behaviors (e.g., unprotected sex and needle sharing) even after knowing their HIV status.

There is a great need for HIV prevention and health promotion among PLWHA in China.
Peer-education Has the Potential to Reduce HIV/AIDS transmission

- Evidence-based peer-education intervention (SHIELD) has shown effectiveness in reducing risk behaviors among IDUs in the US.
- Adaptation and modification of SHIELD program in the Chinese setting
Previous study

- A cross-sectional study in 2013 (done by the researcher)
  - N= 412 PLWHA
  - Social norms are associated with their risk behaviors
    - E.g., Those PLWHA who think more of their friends engage in protected sex are more likely to use condoms themselves.
Specific aims

- Determine the feasibility of recruiting peer-educators in the clinical setting to implement a social-network based education program to reduce high risk behaviors.
- Evaluate the efficacy of a peer-education intervention on reducing high risk behaviors in PLWHA.
Hypotheses

- Trained peer-educators and network members will report less sexual risk as compared to controls.
- Trained peer-educators and network members will report greater medication adherence as compared to controls.
- Trained peer-educators will recruit more PLWHA who are unaware of their serostatus as compared to controls.
Study Population

- **Inclusion Criteria:**
  - HIV seropositive;
  - Self-reported risk behaviors in the last 3 months (e.g., multiple sex partners, unprotected vaginal or anal sex);
  - Age 18 or older;
  - Willingness to attend sessions, discuss HIV prevention, and encourage network members to be tested;
  - Reside in Guangzhou or a surrounding county.

- **Exclusion Criteria:**
  - Patients who were admitted to the hospital twice due to HIV or comorbidities in the last year.
  - Patients who could not communicate in Mandarin.
Outcomes

Primary outcome:
- Decrease in sex risk composite scores
  - Sex risk composite scores (7 items)
    - Multiple sex partners, unprotected sex with stable, casual, commercial sex partners, unprotected sex with same sex, different sex, unprotected sex in the last 3 intercourses

Secondary outcomes:
- Medication adherence
  - Self-reported 3 and 7 day medication adherence
- The number of individuals recruited to receive VCT and the number of positives
Flow Diagram of Study Enrollment and Data Collection Points

Eligibility Screening, baseline survey @ Guangzhou No. 8 People’s Hospital

Randomization

10 weekly Intervention
- Risk behavior, Medication, social network questionnaire

10 weekly control
- Risk behavior, Medication, social network questionnaire

Week 0

Week 10

Follow up at 6, 12, and 18 months
- Risk behavior, Medication, social network questionnaire
## Content of intervention

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 sessions, 90 mins each</td>
<td>10 sessions, 90 mins each</td>
</tr>
<tr>
<td>Small group peer-educator training</td>
<td>Small group setting</td>
</tr>
<tr>
<td>Content (e.g.)</td>
<td>Content (e.g.)</td>
</tr>
<tr>
<td>Peer Health Educator Role</td>
<td>Video watching and discussion on</td>
</tr>
<tr>
<td>PEER communication skills</td>
<td>Nutrition</td>
</tr>
<tr>
<td>HIV knowledge review</td>
<td>Exercise</td>
</tr>
<tr>
<td>Outreach for VCT</td>
<td>Alcohol</td>
</tr>
<tr>
<td>HIV risk reduction</td>
<td>Smoking</td>
</tr>
<tr>
<td>Medication adherence</td>
<td>Environment</td>
</tr>
<tr>
<td>Social support</td>
<td>Employment</td>
</tr>
</tbody>
</table>
Analytical Plan

- Two sample t-tests and chi-squared tests to compare baseline characteristics between intervention and control groups

- Clustered data analyses (clustering within individual responses over time and clustering in the same social network)
  - Generalized Estimating Equation (GEE)
  - Hierarchical Linear Model (HLM)
    - For repeated measures and multi-level framework
Sample Size

- Sex risk composite score in prior study: mean=1.39, SD= 1.52
- Primary outcome: Decrease in sex risk composite scores

\[ \alpha = 0.05 \]

\[ \text{Power} = 80\% \]

\[ \delta = 0.3 \]

\[ \sigma = 0.9 \]

- Sample Size = 284

- 15% drop off rate at 18 months

\[ N = \frac{284}{(1-15\%)} = 334 \]
Potential Limitations

- Higher drop-out rate
- Difficulty in recruiting social network members
- Self-reported outcomes
Strengths

- Randomized controlled trial
- Previous study
- International collaboration
Acknowledgement

- Advisors
  - Carl Latkin
  - Edger R. Miller
  - Marie Nolan
  - Meredith Atkinson

- Small group members
  - Liu, Qing
  - Cheng, Chao
  - Chen, Biyuan
  - Yang, Yaping

- Peer advisors
  - Melissa A. Davey-Rothwell
  - Karin E. Tobin
Thank you!
Questions?

Yan Guo
runningy@hotmail.com