Feasibility and Acceptability of an eHealth Intervention for ART Adherence in People who use Substances

Late Breaker Oral Abstract Session

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1:30-2:30 Eastern

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The POS4Health eHealth intervention

Cores have multiple short video vignettes depicting peers living with HIV
Peers describe their history with that Core’s targeted issue
Peers discuss active coping and how they overcame that issue

Baseline and follow-up online assessments
weekly diaries of ART adherence & substance use
automated emails to prompt logins

Cores target knowledge and encourage use of strategies to overcome each problem
Cores encourage practice of positive-psychology-evidence based healthy habits

Cores build self-management skills via:
interactions to engage users
tailored feedback on progress
motivate user to identify problems and practice skills

6 CORES addressing 6 common problems that undermine the efficacy of ART:
- Social support
- Nonadherence
- Depression
- Addictive behaviors (Using Core), Stigma and disclosure
- Wellness (What’s Next Core)

Cores are metered out weekly to allow time to practice skills
Remember, Andrew could decide to drink *any* of these beverages. He needs your help sorting *all* of them by the correct number of standard drinks.

Click "Show me the drink chart" whenever you need a hint!
Short Videos with Peer Tips

Peers Share Tips To Remain Healthy

Most of the Peers smoke, drank, or used street drugs before they started using ART. They shared that their use of these substances affected their taking ART and their health. Now Peers will share some tips that worked.
Inclusion Criteria:
• HIV positive, prescribed ART
• 18 years or older
• Speaks and reads English
• Has regular access to a phone, email, and computer connected to the Internet
• Missed ≥2 days of ART in the past 30 days
• Illicit drug use OR binge drinking in past 30 days

Design:
2 X 2 RCT with assessments at baseline and 3M(post-intervention).

Groups:
• Pos4Health vs. Patient Education (static website)

Hypotheses:
1: Pos4Health is feasible and acceptable by a priori benchmarks.
2: Pos4Health participants would show more improvements in knowledge, self efficacy, and motivation to change than those assigned to the PE (control) condition
3: Pos4Health participants would show more change on: days using substances, days taking ART, symptoms (stigma, depression, etc.), and viral suppression, (exploratory clinical outcomes) compared to those assigned to the PE condition
### Participant Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Control n=25</th>
<th>Experimental n=26</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>n</strong></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>18 (72%)</td>
<td>16 (64%)</td>
</tr>
<tr>
<td>Women</td>
<td>7 (28%)</td>
<td>9 (36%)</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than High School</td>
<td>2 (9.1%)</td>
<td>2 (8.3%)</td>
</tr>
<tr>
<td>High School, GED, Trade</td>
<td>12 (54.6%)</td>
<td>14 (58.3%)</td>
</tr>
<tr>
<td>School</td>
<td>8 (36.4%)</td>
<td>8 (33.3%)</td>
</tr>
<tr>
<td>Employment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>6 (27.3%)</td>
<td>5 (20.8%)</td>
</tr>
<tr>
<td>Disabled, Retired, Other</td>
<td>9 (40.9%)</td>
<td>11 (45.8%)</td>
</tr>
<tr>
<td>Employed Part Time</td>
<td>4 (18.2%)</td>
<td>2 (8.3%)</td>
</tr>
<tr>
<td>Employed Full Time</td>
<td>3 (13.6%)</td>
<td>6 (25%)</td>
</tr>
<tr>
<td>Partnership Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>15 (68.2%)</td>
<td>15 (62.5%)</td>
</tr>
<tr>
<td>Partnered</td>
<td>5 (22.7%)</td>
<td>7 (28.7%)</td>
</tr>
<tr>
<td>Div, Separated, Widowed</td>
<td>2 (9.1%)</td>
<td>2 (8.3%)</td>
</tr>
<tr>
<td>Disclosure Difficulty Scale</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open about HIV Status</td>
<td>13 (59%)</td>
<td>13 (54%)</td>
</tr>
<tr>
<td>Partly Open</td>
<td>7 (32%)</td>
<td>9 (38%)</td>
</tr>
<tr>
<td>Secretive</td>
<td>2 (9%)</td>
<td>2 (8%)</td>
</tr>
<tr>
<td>Depression on CES-D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Depressed</td>
<td>12 (55%)</td>
<td>8 (33%)</td>
</tr>
<tr>
<td>Mild to Moderate</td>
<td>4 (18%)</td>
<td>3 (13%)</td>
</tr>
<tr>
<td>Major Depression</td>
<td>6 (27%)</td>
<td>13 (54%)</td>
</tr>
<tr>
<td>Missed ART Medications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>1 (5%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>This Week</td>
<td>12 (55%)</td>
<td>16 (67%)</td>
</tr>
<tr>
<td>Last Week</td>
<td>4 (18%)</td>
<td>6 (25%)</td>
</tr>
<tr>
<td>2-4 Weeks Ago</td>
<td>4 (18%)</td>
<td>2 (8%)</td>
</tr>
<tr>
<td>1-3 Months Ago</td>
<td>1 (5%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Addiction Severity on DAST</td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>4 (19%)</td>
<td>3 (13%)</td>
</tr>
<tr>
<td>Low</td>
<td>6 (29%)</td>
<td>7 (29%)</td>
</tr>
<tr>
<td>Moderate</td>
<td>5 (24%)</td>
<td>8 (33%)</td>
</tr>
<tr>
<td>Severe or Substantial</td>
<td>6 (29%)</td>
<td>6 (25%)</td>
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Aim 1: Pilot Data on Study Feasibility

Feasibility benchmarks:

- STUDY ACCEPTANCE DATA: 331 applicants, 223 not eligible, 36 not contactable, 8 applied late, leaving 64 eligible, 13 declined, and 51 consents.
- 44 of 64 eligible patients completed baseline interviews = 68.8%. (benchmark was 56% based on literature)
- STUDY COMPLETION RATE: completed follow-up interviews = 39 divided by baseline interviews 44 = 88.6% (benchmark was 80% based on literature)

Conclusion: The pilot data exceeded the a priori Study Acceptance and Study Completion criteria for Feasibility.
Aim 1: Pilot Data on Program Acceptability

- **Program features:** (ease of use, convenient, interesting, likeable, attractive, private, satisfying, good fit, useful, easy to understand, trustworthy, etc.) 63-89% of Users **rated every program feature as a 3 or 4** (A priori benchmark of 3 on majority of program features **EXCEEDED**)

- **Program Utility:** (improving their problems, increasing knowledge about substance use and ART, improving quality of life, ability to follow program recommendations, reaching goals, etc.) Users **rated 64% of 22 program utility items as Mostly to Very Helpful.** (A priori benchmark of “helpful” on majority of program utility **EXCEEDED**)
  - 8 Items were rated as not at all or slightly helpful: improve mood, physical activities, confidence to reduce substance use, reducing risky drinking, improving social life, improving family relationships, and improving other relationships

- **Usage:** 6 of 22 (27.2%) completed 0 Cores, **4 of 22 (18.2%) completed 2 Cores, and 12 of 22 (54.5%) completed 5 or 6 Cores.** (A priori benchmark completing 75% of Cores **NOT met**)

**Conclusion:** The program met 2 of 3 a priori Acceptability benchmarks
Aim 2: Impact on Potential Mechanisms

**Knowledge** across 6 Core Areas

- Pos4Health Pre
- Pos4Health Post
- Control Pre
- Control Post

**Self Efficacy** (Confidence-Temptation)

- Self Efficacy for ART
- Self Efficacy to Reduce Substance Use
Aim 2: Impact on Potential Mechanisms (Motivation)

Importance, Confidence, & Readiness to Change

Patient Activation

Importance of ART Adherence
Confidence to Adhere to ART
Readiness to Adhere to ART
Importance to Reduce Substance Use
Confidence to Reduce Substance Use
Readiness to Reduce Substance Use

Pos4Health Pre
Pos4Health Post
Control Pre
Control Post
Aim 3: Impact on Exploratory Outcomes

Days in 30 took ART (TLFB)

- Pre (n=50): Control 23.9, Pos4Health 21.6
- Post (n=38): Control 25.9, Pos4Health 23.6

Days in 30 No Drug Use

- Pre (n=45): Control 15.8, Pos4Health 16.1
- Post (n=33): Control 9.81, Pos4Health 10.3
Discussion: General Study Feasibility

• Recruiting Peer Role models and developing compelling video content was easier than anticipated
• Recruited study participants with high rates of the 6 common problems that undermine treatment adherence
• Expanded recruitment for pilot RCT participants beyond local clinics due to high ART adherence & few active substance users
  • national recruitment: medical & pharmacy records collection time-consuming
  • Final data received a year late. Labs data are incomplete. Inadequate viral load data to determine impact.
Discussion: Findings

- **Aim 1** Study was Feasible by study acceptance and retention and was Acceptable by participant evaluations but not usage
- **Aim 2** Potential mechanisms of change not promising (Knowledge, Self-efficacy, Motivation show few diffs, little change)
- **Aim 3** Exploratory outcomes:
  - 30 day ART adherence: slight parallel increase in both groups
  - Drug use days in 30: slight parallel decrease in both groups
  - Drinking days in 30 and Drinks per drinking day: decrease in both groups but decline was twice as steep in Pos4Health participants
  - Viral load data not available for most participants; change cannot be assessed.
• Consider focusing on PLWH with harmful drinking
• INTERVENTION
  • Drop or improve features with low utility
  • Update program with responsive design to enable mobile
  • Use automated mobile assessments

STUDY FEASIBILITY/ACCEPTABILITY
DBS testing for VL?


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