Project Success

testing the efficacy of a dual focus transtheoretical model-based motivational enhancement intervention + jail-to-community transition assistance to prevent alcohol-exposed pregnancy after a jail term

Acknowledgements

- Mary Marden Velasquez, Co-PI
- Joseph P. Carbonari, Co-I, Statistician
- Kirk von Sternberg, Co-I, Data Manager
- Gaye Cummins, Project Director
- Charles Green, Data Analyst

University of Texas Health Science Center at Houston

Funded by NIAAA (RO1 AA 12514-03S1)

Harris County, Plane State, Brazoria County, Ft. Bend County, and Montgomery County jails
Background

- Half of U.S. pregnancies are unplanned (49%); women with an unplanned pregnancy report more binge drinking (*Naimi et al. 03*)
- Women who stop drinking when they notice they are pregnant may still have exposure of ≥6 wks or more (*Floyd et al. 99*); 50% of pregnant women reported drinking in the 3 mos before recognizing the pregnancy (*Floyd & Sidhu, 04*)
- “Preconception planning” was introduced by the Expert Panel on the Content of Prenatal Care (89) and adopted by FAS-prevention scientists at CDC 9 yrs ago when they initiated Project *CHOICES*, a cooperative research project focused on non-pregnant women *at risk* of an alcohol-exposed pregnancy (AEP)
Epidemiology study in 6 settings: highest prevalence of AEP—20% among jail inmates (and alcohol and drug treatment center residents) in Houston

5x higher than low income primary care clinics (Virginia & Florida); 11x higher than U.S. females aged 18-44

Feasibility study in the jail: 100% consent among at risk inmates

High participation for in jail sessions; lower for free world (with incentives) – see table

6 months after release, 33% reported less drinking + increased birth control; 13% reduced drinking only; 23% increased birth control only

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Time before/after release from jail</th>
<th>$</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session 1</td>
<td>2 wks before</td>
<td>$10</td>
<td>100</td>
</tr>
<tr>
<td>Session 2</td>
<td>1 wk before</td>
<td>$10</td>
<td>100</td>
</tr>
<tr>
<td>Session 3</td>
<td>&lt;3 wks after</td>
<td>$20</td>
<td>41</td>
</tr>
<tr>
<td>Session 4</td>
<td>&lt;6 wks after</td>
<td>$30</td>
<td>35</td>
</tr>
<tr>
<td>Planned Parenthood</td>
<td>1-4 wks after</td>
<td>$20</td>
<td>41</td>
</tr>
</tbody>
</table>
Objective

- To reduce the risk of an alcohol-exposed pregnancy—AEP—after a jail term among previously at risk jail inmates
- The criterion variable is ....
Risk of Alcohol Exposed Pregnancy

Yes = ≥1 occurrence of ≥5 drinks in a day or ≥7 drinks in a week

Yes = ≥1 occurrence of vaginal sex without effective birth control
<table>
<thead>
<tr>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>ETOH___</td>
<td>ETOH___</td>
<td>ETOH___</td>
<td>ETOH___</td>
<td>ETOH___</td>
<td>ETOH___</td>
<td>ETOH___</td>
</tr>
<tr>
<td>M#__<strong>BC</strong></td>
<td>M#__<strong>BC</strong></td>
<td>M#__<strong>BC</strong></td>
<td>M#__<strong>BC</strong></td>
<td>M#__<strong>BC</strong></td>
<td>M#__<strong>BC</strong></td>
<td>M#__<strong>BC</strong></td>
</tr>
<tr>
<td>O#__<strong>BC</strong></td>
<td>O#__<strong>BC</strong></td>
<td>O#__<strong>BC</strong></td>
<td>O#__<strong>BC</strong></td>
<td>O#__<strong>BC</strong></td>
<td>O#__<strong>BC</strong></td>
<td>O#__<strong>BC</strong></td>
</tr>
<tr>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>ETOH___</td>
<td>ETOH___</td>
<td>ETOH___</td>
<td>ETOH___</td>
<td>ETOH___</td>
<td>ETOH___</td>
<td>ETOH___</td>
</tr>
<tr>
<td>M#__<strong>BC</strong></td>
<td>M#__<strong>BC</strong></td>
<td>M#__<strong>BC</strong></td>
<td>M#__<strong>BC</strong></td>
<td>M#__<strong>BC</strong></td>
<td>M#__<strong>BC</strong></td>
<td>M#__<strong>BC</strong></td>
</tr>
<tr>
<td>O#__<strong>BC</strong></td>
<td>O#__<strong>BC</strong></td>
<td>O#__<strong>BC</strong></td>
<td>O#__<strong>BC</strong></td>
<td>O#__<strong>BC</strong></td>
<td>O#__<strong>BC</strong></td>
<td>O#__<strong>BC</strong></td>
</tr>
</tbody>
</table>

If not in the community, circle the date and code as follows:  I: Incarcerated,  H: Hospital,  R: Residential Tx, or  DT: Detox; Drinking (ETOH)  Write beverage, quantity
(Vaginal) sex - M: Main Partner  O: Other partners  BC: Birth Control – Fill in as follows:  C: Condoms  P: Pills  D: Diaphragm  I: IUD  S: Spermicide  N: Norplant  DP: Depo-Provera
0: None  EC: Emergency contraception  Other: (write in method)
Method

- Study Design: RCT with all consenting, eligible women from 5 Houston area jails
- Follow-up: Personal interviews 3- and 6-months after release from jail
- Data collectors blinded to study assignment
- Cash reimbursement for time and expenses:
  - free world intervention sessions ($30 each)
  - follow-up interviews ($35 and $50)
**Project SUCCESS Intervention**

- **Counseling Session #1:** 10-14 days before release
- **Counseling Session #2:** 2-7 days before release
- **Counseling Session #3:** 2 wks after release
- **Birth Control Education & Services Session:** ≤2 wks after release
- **Community Resources Session:** 2-10 days before release
- **Counseling Session #4:** 4 wks after release
Motivational Enhancement Counseling Sessions

Motivational Interviewing Principles

- Express empathy
- Develop discrepancy
- Avoid argumentation
- Roll with resistance
- Support self-efficacy
Counseling Sessions

Session 1:

- Introduced ME approach and rationale
- Administered Readiness, Importance and Confidence rulers for alcohol, birth control to elicit “change talk”
- Discussed release - encouraged thinking about any changes she might want to make in her life, including alcohol and birth control practices
- Discussed alcohol use prior to jail; explored how drinking affected her work, family, social relationships, etc.
Session 1...

- Explored her thoughts and feelings about future pregnancies using Seriousness and Susceptibility rulers.
- Discussed the idea of a “promise to self“ to postpone pregnancy for $\geq 6$ months or until she is in a position to make a longer-term decision about a baby.
Session 2:

- Presented “Daily Journal” and taught to self-monitoring of drinking, sex, and birth control use
- Presented and discussed her personalized feedback report - alcohol use, pregnancy risk, health risks before coming to jail
- Discussed contraceptive methods currently available and provided printed materials on each method
- Discussed the family planning visit and problem-solved any barriers to attendance
- Reviewed scaling rulers completed in Session 1
Jail-to-Community Transition Assistance

- “One Woman’s Release Story”
- Counseling session #2 emphasized planning for release, taxi voucher
- Release folder: taxi voucher, copies of materials, reminder cards for free world sessions
  + (all study participants) bus tokens, coins for ‘phone, condoms, information on domestic violence and emergency contraception, condoms, appt cards for follow-up interviews, the study toll free number, and donated personal items
“Calm down Monica, and try to get some sleep” my friend Gina said. That was easy for her to say. I felt both nervous and excited all at the same time. I only had 26 hours to go, and then I’d be free.

I lay there in the dark and thought about my plans for the future. Since I’d been locked up, I had plenty of time to think about my past mistakes.

Gina said I should write my plans down on paper so they would seem more real to me. I thought it would be a good idea to make more than one plan in case the first one doesn’t work. I found some old scraps of paper and made a diary that I still have today. I wrote about how I was going to turn my life around.

- Written with inmates
- Describes temptations, ease of slipping into the “old life”
- Emphasizes the importance of making a plan
Pre-release Community Resources Group Session with an MSW

Recommendations individualized - based on requests and needs, e.g.

- ID
- GED
- job training
- housing
- CHIPS, “Goldcard”
- Dental
- Clothing

Multiple basic needs referred to “case management”

Release Folder
Session 3:

- Elicited woman’s feelings about her progress now that she has been released
- Checked in family planning visit (Did she attend? What was the outcome of the visit? Birth control choice? If she did not attend, what are the barriers? Explored possible ways to overcome any barriers)
Session 3...

- Reviewed Daily Journal for both behaviors. Discussed attempts to change and any barriers encountered since the last session. Explored and debriefed risky situations (i.e., did she have unprotected sex? Had she been drinking heavily?)
- Focused primarily on the target behavior that was not discussed as thoroughly in Session 2. (Here, in particular, used ME skills to increase motivation as appropriate)
- Revisited and revised scaling rulers, goal statements and change plans based on the woman's experiences since the in-jail sessions
Birth Control Education & Services Session

Appointment ____________________

Planned Parenthood
3601 Fannin

Gloria
713-831-6564

- Individualized birth control education
- Well-woman exam (Pap smear, clinical breast exam)
- STD testing
- HIV testing
- Birth control services for 6 months
Session 4:
- Reviewed and summarized the previous sessions
- Reviewed goals and change plans
- Problem solved, reinforced goals, revisited temptation and confidence graphs, worked toward strengthening commitment to change
- Discussed plans for the future
Inclusion Criteria

- **Intervention-related:**
  - Release to the community in ≥2 weeks, <6 weeks
  - Staying around Houston (intervention period)
  - Not in protective custody or the jail mental health unit

- **Risk-related**
  - Age <44 years (>18)
  - Fertile
  - <3 months before jail
    - Vaginal sex without birth control
    - Drank alcohol ≥5 drinks per day or ≥7 drinks per week
  - Not pregnant or planning a pregnancy <6 months after release

- **Research-related**
  - Staying around Houston (follow-up period)
  - Could provide ≥2 locators
Enrollment
(Eligibility and Recruitment)

Assessed for eligibility after prescreening for release date, age 18-44 n=3546

Group screening n=3276

- No risk last 3 mos in free world:
  - No alcohol n=1217
  - No sex n=548

- Post-release plan:
  - Moving n=697
  - Holds, etc. n=329

- No English n=188

- Pregnancy:
  - Pregnant now n=137
  - Planning a baby ≤ 6 mos, n=398

- Protected now:
  - Tubal ligation n=984
  - Depo n=127
  - IUD, Norplant n=69

- Infertile:
  - Doctor told her she isn’t fertile n=246
  - Hysterectomy n=239
  - Menopause n=158
  - No ovaries n=94

Not interested n=270

Eligible for individual screening n=441
Follow-up

Control group n=83

3-mo. follow-up:
• Completed core interview n=59
• Missed interview n=24

6-mo. follow-up:
• Completed core interview n=48
• Missed interview n=33
• <2 periods of \( \geq 30 \) continuous free world days n=2

Intervention group n=133

3-mo. follow-up:
• Completed core interview n=87
• Missed interview n=45
• Located, not available for interview per jail n=1

6-mo. follow-up:
• Completed Core interview n=69
• Missed interview n=57
• <2 periods of \( \geq 30 \) continuous free world days n=7

TLFB data for 2 periods of \( \geq 30 \) continuous free world days n= 148:

- Control group: n = 74%
- Intervention group: n = 70%
Participant Socio-demographic Profile (n=216)

- Average age 31 years (SD=7)
- 47% <12th grade, no GED
- 42% Black, 12% Hispanic, 47% White
- 51% married, living with a partner
- 43% <$20,000 annual income
Participant Risk Profile

- **Lifetime**
  - Physically abused = 60%
  - Median number of months incarcerated = 9 mo.
  - Inpatient drug treatment = 50%
  - Inpatient mental health treatment = 15%

- **Year before jail**
  - Homeless >2 days = 34%
  - Met drug dependence criteria = 80%
  - Treated for a sexually transmitted infection = 26%
## Intervention Exposure

<table>
<thead>
<tr>
<th>Jail</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Session 1</td>
<td>99 %</td>
</tr>
<tr>
<td>Session 2</td>
<td>92 %</td>
</tr>
<tr>
<td>Release Folder</td>
<td>94 %</td>
</tr>
<tr>
<td>Taxi Voucher</td>
<td>36 %</td>
</tr>
<tr>
<td>Community Resources Session</td>
<td>79 %</td>
</tr>
</tbody>
</table>

## Free world

<table>
<thead>
<tr>
<th>Free world</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Session 3</td>
<td>39 %</td>
</tr>
<tr>
<td>Birth Control Education &amp; Services Session</td>
<td>40 %</td>
</tr>
<tr>
<td>Session 4</td>
<td>31 %</td>
</tr>
</tbody>
</table>
Proportions in 4 Outcome Categories by Condition and Time from Release
Logistic Regression - Generalized Estimating Equation Approach

Risk of Alcohol Exposed Pregnancy
Modeling $p(\text{Alcohol Exposed Pregnancy})$
Unsafe Sex

Modeling $p(\text{Unsafe Sex})$

Probability

Month

Condition

Control

Treatment
Risk Drinking
Modeling \( p(\text{Risk Drinking}) \)

Probability

Month

Condition  Control  Treatment

1  2  3  4  5  6
Risk Drinking
≤ 4 drinks in a day and ≤ 7 drinks in any one week

### Wald Statistics For Type 3 GEE Analysis

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>Chi-Square</th>
<th>Pr &gt; ChiSq</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONDITION</td>
<td>1</td>
<td>7.31</td>
<td>0.0069</td>
</tr>
<tr>
<td>TIME</td>
<td>5</td>
<td>9.99</td>
<td>0.0754</td>
</tr>
<tr>
<td>CONDITION*TIME</td>
<td>5</td>
<td>2.08</td>
<td>0.8386</td>
</tr>
</tbody>
</table>

### Contrast Estimate Results

<table>
<thead>
<tr>
<th>Label</th>
<th>Estimate</th>
<th>Standard Error</th>
<th>α</th>
<th>Confidence Limits</th>
<th>Chi Square</th>
<th>Pr &gt; ChiSq</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condition</td>
<td>0.8381</td>
<td>0.3100</td>
<td>0.05</td>
<td>0.2306</td>
<td>1.4457</td>
<td>7.31</td>
</tr>
<tr>
<td>Exp(Condition)</td>
<td>2.3121</td>
<td>0.7167</td>
<td>0.05</td>
<td>1.2594</td>
<td>4.2447</td>
<td></td>
</tr>
</tbody>
</table>
Some Conclusions

- There is need for intervention programs—
  - drugs and alcohol
  - STI/HIV prevention and contraception
  - 10% planning to get pregnant
- Jail release conditions may almost assure failure
- Women receptive to release planning; ME style welcome
- Overconfidence important challenge for treatment under restrained conditions; groups are natural next step
- Need to reach more women—upcoming release too restrictive in the chaos of jail
- Mandated tx programs—better conditions for intervention/evaluation; but, some groups, eg, Af American women excluded
# Risk of Alcohol-Exposed Pregnancy

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>Chi-Square</th>
<th>Pr &gt; ChiSq</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONDITION</td>
<td>1</td>
<td>2.56</td>
<td>0.1099</td>
</tr>
<tr>
<td>TIME</td>
<td>5</td>
<td>5.01</td>
<td>0.4143</td>
</tr>
<tr>
<td>CONDITION*TIME</td>
<td>5</td>
<td>5.09</td>
<td>0.4045</td>
</tr>
</tbody>
</table>

## Contrast Estimate Results

<table>
<thead>
<tr>
<th>Label</th>
<th>Estimate</th>
<th>Std Error</th>
<th>alpha</th>
<th>Confidence Limits</th>
<th>Chi Square</th>
<th>Pr &gt; ChiSq</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condition</td>
<td>0.4957</td>
<td>0.3101</td>
<td>0.05</td>
<td>-0.1121</td>
<td>2.56</td>
<td>0.1099</td>
</tr>
<tr>
<td>Exp (Condition)</td>
<td>1.6417</td>
<td>0.5091</td>
<td>0.05</td>
<td>0.8940</td>
<td>3.0149</td>
<td></td>
</tr>
</tbody>
</table>
Unsafe Sex
>1 occurrences of vaginal sex without birth control

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>Chi-Square</th>
<th>Pr &gt; ChiSq</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONDITION</td>
<td>1</td>
<td>1.92</td>
<td>0.1654</td>
</tr>
<tr>
<td>TIME</td>
<td>5</td>
<td>3.18</td>
<td>0.6719</td>
</tr>
<tr>
<td>CONDITION*TIME</td>
<td>5</td>
<td>7.48</td>
<td>0.1872</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Label</th>
<th>Estimate</th>
<th>Standard Error</th>
<th>α</th>
<th>Confidence Limits</th>
<th>Chi-Square</th>
<th>Pr &gt; ChiSq</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condition</td>
<td>-0.3984</td>
<td>0.2872</td>
<td>0.05</td>
<td>-0.9614</td>
<td>0.1645</td>
<td>1.92</td>
</tr>
<tr>
<td>Exp (Condition)</td>
<td>0.6714</td>
<td>0.1928</td>
<td>0.05</td>
<td>0.3824</td>
<td>1.1788</td>
<td></td>
</tr>
</tbody>
</table>
Preventing an Alcohol-exposed Pregnancy after a Jail Term

- Written with inmates
- Describes temptations, ease of slipping into the “old life”
- Emphasizes the importance of making a plan

One Woman’s Release Story

EXIT
To Freeworld Take Stairs Down
Jail-to-Community Transition Assistance

- “One Woman’s Release Story”
- Pre-release community resources group session with an MSW + resources list
- Counseling session 2 emphasized planning for release, taxi voucher
- Release folder: # taxi voucher, copies of materials, reminder cards for post-release sessions
  - (all) bus tokens, coins for phone, info on domestic violence & emergency contraception; appt cards for interviews; study toll free number, donated personal items
EXIT
To Freeworld Talk Stairs Down
Over half of U.S. pregnancies are unplanned; among women who drink alcohol at risky levels the rate is higher--???

Women who stop drinking when they recognize the pregnancy, exposure is still xx-xx weeks; if they wait until they start prenatal care, exposure is xx-xx

Preconception planning, emphasized by the Expert Panel on the Content of Prenatal Care, was adopted by CDC FAS prevention scientists x years ago when they planned Project CHOICES, a feasibility study of intervention for women at risk of an alcohol-exposed pregnancy
Session 2… Discussed Temptation and Confidence profiles for both behaviors

- With someone other than main partner
- Too much trouble
- Experience side effects
- Partner gets upset or angry
- Using alcohol or drugs

**Graph:**
- Confidence
- Temptation

**Bars:**
- With someone other than main partner: Confidence (2), Temptation (3)
- Too much trouble: Confidence (4), Temptation (4)
- Experience side effects: Confidence (5), Temptation (2)
- Partner gets upset or angry: Confidence (3), Temptation (2)
- Using alcohol or drugs: Confidence (4), Temptation (2)