An Integrated Intervention to Reduce Intimate Partner Violence in Pregnancy: A Randomized Controlled Trial

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Eunice Kennedy Shriver National Institute of Child Health and Human Development
NIH – DC Initiative

A research project to reduce infant mortality in the District of Columbia through cooperative community based studies and interventions.

Collaborating Institutions:
Children’s National Medical Center
George Washington University Medical Center
Georgetown University Medical Center
Howard University Hospital
*Eunice Kennedy Shriver* National Institute of Child Health & Human Development
National Center on Minority Health & Health Disparities
RTI International

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Project DC-HOPE

An RCT to improve Healthy Outcomes through Pregnancy Education (HOPE) in women at risk due to:

- Cigarette Smoking
- Environmental Tobacco Smoke Exposure (ETSE)
- Depression
- Intimate Partner Violence
Eligible Participants (n=1,044)

- African-American women
- At least 18 years of age
- Receiving PNC at one of the 6 participating clinics between July 2001 and October 2003
- Enrolled by 28 weeks gestation
- English speaking
- Reported 1 or more risk factors on ACASI-screening
Distribution of Eligible African American Women by the Four Risk Factors at Baseline Interview

Active Smoking
n = 198 (19.0%)

Depression
n = 463 (44.4%)

Passive Smoking (ETSE)
n = 755 (72.5%)

IPV (victims & perpetrators)
n = 464 (44.4%)
(336 victims only)

Total Eligible Sample:
n = 1044 (117 had no risk at baseline)
Study Participants (n=1,044)

- Self-identified as African American/Black
- Maternal age at enrollment (Mean = 25 years)
- Gestational age (Mean = 19 weeks)
- Medicaid (78%)
- FT/PT Employed (37%)

Education Level
- < HS 30%
- = HS/GED 47%
- > HS 23%
Data Collection

- Baseline data collected by telephone interview
- Follow-up data collected by telephone during the 2\textsuperscript{nd} and 3\textsuperscript{rd} trimesters and an average of 10 weeks postpartum
- IPV measured using Conflict Tactics’ Scale Revised
Intervention

- Targeted towards risks acknowledged at the Intervention Visit
- Three Components:
  - Psychosocial Risk: IPV & Depression
  - Smoking: Active & ETSE
  - Reproductive Health Education
IPV Intervention

- Emphasized safety behaviors
- Based on intervention developed by Parker and colleagues
- Centered on Dutton’s Theory of Empowerment
Intervention Content

- Cycle of abuse
- Woman’s options
- Consideration of alternatives
- Plan based on current choice and readiness for change
- Elements of Safety Plan
- Community Supports & Resources
Analysis

- Analysis limited to victimization
- Used an intent-to-treat approach
- Bivariate analysis and logistic regression to model recurrence, to predict categories and to model likelihood of victimization
Analysis -- terms

- Odds Ratio – measure of strength of the association between exposure and disease
- Adjusted Odds Ratio – odds of an event being true, adjusted for or controlling for possible contributions from other variables in the model
- A confidence interval
  - Used to indicate the reliability of an estimate
  - Here, 95% of the time our estimate includes the true value of the odds ratio
Continuation of IPV

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Intervention</th>
<th>Usual Care</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPV victim Baseline</td>
<td>32.4%</td>
<td>31.9%</td>
<td>ns</td>
</tr>
<tr>
<td>IPV victim at FU1</td>
<td>15.2%</td>
<td>30.5%</td>
<td>.01</td>
</tr>
<tr>
<td>IPV victim at FU2</td>
<td>9.1%</td>
<td>18.2%</td>
<td>.05</td>
</tr>
<tr>
<td>IPV victim at PP</td>
<td>12.7%</td>
<td>21.2%</td>
<td>.06</td>
</tr>
<tr>
<td>IPV victim at all</td>
<td>23.3%</td>
<td>37.8%</td>
<td>.07</td>
</tr>
</tbody>
</table>
### Adjusted Odds Ratios for the Effect of the Intervention on Categories of IPV

<table>
<thead>
<tr>
<th>Intervention Compared to Usual Care</th>
<th>Minor IPV</th>
<th>Severe IPV</th>
<th>Physical IPV</th>
<th>Sexual IPV</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Baseline</strong></td>
<td>1.07 (0.81-1.40)</td>
<td>0.97 (0.70-1.35)</td>
<td>1.07 (0.81-1.42)</td>
<td>1.03 (0.72-1.47)</td>
</tr>
<tr>
<td><strong>FU1 AOR (95% CI)</strong></td>
<td>0.48 (0.26-0.86)</td>
<td>0.53 (0.22-1.27)</td>
<td><strong>0.49 (0.27-0.91)</strong></td>
<td>0.39 (0.15-1.03)</td>
</tr>
<tr>
<td><strong>FU2 AOR (95% CI)</strong></td>
<td>0.53 (0.28-0.99)</td>
<td><strong>0.85 (0.31-2.33)</strong></td>
<td>0.56 (0.27-1.17)</td>
<td>0.55 (0.23-1.32)</td>
</tr>
<tr>
<td><strong>PP AOR (95% CI)</strong></td>
<td><strong>0.56 (0.34-0.93)</strong></td>
<td><strong>0.39 (0.28-0.82)</strong></td>
<td><strong>0.47 (0.27-0.82)</strong></td>
<td><strong>0.99 (0.46-2.16)</strong></td>
</tr>
</tbody>
</table>
## Reduced Logistic Model for IPV Victimization

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol use during pregnancy</td>
<td>2.16 (1.50 – 3.14)</td>
</tr>
<tr>
<td>Previous Voluntary Interruption of Pregnancy</td>
<td>1.57 (1.13-2.16)</td>
</tr>
<tr>
<td>Urinary tract infection</td>
<td>1.48 (1.02 – 2.14)</td>
</tr>
<tr>
<td>STD during pregnancy</td>
<td>1.51 (1.08-2.12)</td>
</tr>
<tr>
<td>Emotional support from others score</td>
<td>0.988 (0.977-0.998)</td>
</tr>
</tbody>
</table>
# Pregnancy Outcomes Among Women Experience IPV

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Intervention (n=150)</th>
<th>Usual Care (n=156)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Birthweight</td>
<td>17 (12.8%)</td>
<td>24 (18.5%)</td>
<td>.20</td>
</tr>
<tr>
<td>Very Low Birthweight</td>
<td>1 (0.8%)</td>
<td>6 (4.6%)</td>
<td>.05</td>
</tr>
<tr>
<td>Birthweight (g)</td>
<td>3,139±593</td>
<td>3,098±717</td>
<td>.62</td>
</tr>
<tr>
<td>Preterm Birth</td>
<td>18 (13.0%)</td>
<td>27 (19.7%)</td>
<td>.14</td>
</tr>
<tr>
<td>Very Preterm Birth</td>
<td>2 (1.5%)</td>
<td>9 (6.6%)</td>
<td>.03</td>
</tr>
<tr>
<td>Gestational Age at Delivery (wks)</td>
<td>38.2±3.3</td>
<td>36.9±5.9</td>
<td>.02</td>
</tr>
</tbody>
</table>
Conclusions

- This intervention reduced IPV during pregnancy.
- There are a number of factors associated with IPV that are collected routinely during PNC.
- Addressing issues related to depression, alcohol use and drug use are also important.
- Incorporating similar interventions in prenatal care is strongly recommended.
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