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Impact of Maternal Health Literacy Training on the Knowledge of Women who have been Homeless

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THE IMPACT OF MATERNAL HEALTH LITERACY TRAINING ON THE KNOWLEDGE OF WOMEN WHO HAVE BEEN HOMELESS

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Capstone Defense
Capstone Committee: Shannon Self-Brown, PhD and Bruce Perry, MD, MPH
October 15, 2013
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ISDD is a non-profit organization dedicated to promoting health equity among children living in social and economic disadvantage with or at risk for disability.

- Programs supported by ISDD:
  - Healthcare Without Walls (HWW)
  - Break the Cycle (BTC)
  - Project GRAAND
SUMMARY OF OVERALL GOALS

- Improve collection and analysis skills
- Gain more experience working with underserved populations
- Receive additional training in evaluation and analysis techniques
- Better understand planning and implementation tools
RESEARCH FOCUS

- Initial research focus:
  - Short and long-term behavioral changes in mothers and children who have been homeless due to maternal health literacy training

- Revised research focus:
  - Short term knowledge changes in mothers who have been homeless due to maternal health literacy training
There are numerous barriers to quality healthcare for minorities, especially those with little education and low SES

- **Critical Barrier: Low health literacy**

- **Prevalence:** approx. 90 million people in the United States which is 23% of the entire population

- **Economic Burden:** estimated $58 billion/year in USA
LITERATURE REVIEW

- Good health literacy leads to:
  - Personal empowerment within the healthcare system
  - Better healthcare outcomes overall
  - Better attendance for doctor’s appointments
  - More educated and appropriate personal health decisions
  - More preventative primary care visits
  - Fewer hospitalizations
Maternal health literacy focuses on the health knowledge of mothers and how this knowledge directly affects her child’s health outcomes.

- **Confounding factors:**
  - Minority Status
  - Socioeconomic Status
  - Educational Status
  - Age
Important elements that often lapse with low maternal health literacy:

- Appropriate and timely prenatal care
- Important preventative measures into childhood, such as vaccines and regular pediatrician visits
- Proper nutrition
- The ability to identify dangerous environmental factors
LITERATURE REVIEW: MATERNAL HEALTH LITERACY

- Negative health outcomes in children and mothers related to low maternal health literacy:
  - Low birth weight
  - Miscarriage
  - Physical and intellectual disabilities
  - Exposure to environmental toxins
  - Both chronic and acute diseases
Positive outcomes in maternal health literacy interventions:

- Prenatal intervention and assessment of women with low education levels living in a rural setting were able to increase maternal health literacy over time.

- Prenatal interventions are optimal, but not the only opportunity for change.

- Other settings such as residential rehabilitation centers where women reside for long periods of time with their children.
PURPOSE: Build upon existing literature by implementing a 6-hour maternal health literacy training with a sample of previously homeless women who are residing at a rehabilitation center.
Research Question:
Will a 6-hour maternal health literacy training workshop impact the knowledge of mothers, who have been homeless, residing and seeking treatment for substance abuse at a residential rehabilitation facility for women and children (Mary Hall Freedom House (MHFH))
HYPOTHESIS: Participants in the maternal health literacy training program will demonstrate positive improvements in their health knowledge.

Changes in knowledge have been positively linked to behavior change.
MARY HALL FREEDOM HOUSE (MHFH)

- A residential rehabilitation facility for women who have been homeless
- Ancillary support services for mother and child
  - Daycare services
- Women receive benefits of Healthcare Without Walls (HWW)
HEALTHCARE WITHOUT WALLS

- Run by ISDD and housed within MHFH
- Addresses the healthcare needs of the children who accompany their mothers to treatment
- Provides consistent access to medical care for the children
- Monthly clinics are held on campus at Children’s Healthcare of Atlanta (CHOA)
METHODS: STUDY POPULATION

- 91 participants between February 2012 – August 2013

- Represents over 60% of all HWW participants since 2010

- All women were low-income

- Approx 65% African American, 35% White
METHODS: INTERVENTION DETAILS

- 5 maternal health literacy training sessions quarterly between February 2012 and August 2013
- Each comprehensive training was a continuous 6-hours
  - Content, training materials and facilitation: Collaboration between HWW, MHFH, and ChildKind, Inc. (CK)
  - Location: MHFH
- Inclusion Criteria: Women residing at MHFH who were pregnant or already has a child(ren)
METHODS: INTERVENTION DETAILS

- Used a Pre-Test/Post-Test Design to measure immediate knowledge gains
  - 91 total women took the pre-test
  - 82 total women took the post-test
    - 6th grade reading levels
    - Anonymous

- Qualitative Follow-up Questionnaire Post 2-4 months
  - 10 total women took this survey
  - 11% of women who took the pre-test
OVERVIEW OF TOPICS COVERED

- Healthcare issues such as the importance of vaccines and protocols for fevers and injuries
- The importance of establishing a medical home
- Helpful and necessary programs
- Actions to avoid prenatally and after the child is born.
Each woman received an exhaustive 300-page training manual during the training and to keep for reference afterwards.

Includes all of the agenda’s main topics and many practical resources, for example:

- Easiest ways to access Medicaid and other needs-based programs in GA
- Networks for parents of children with disabilities
  - Medical assessment tools
TESTING MEASURES

- Quantitative Measures: Pre/Post Test
  - 32 multiple choice questions for each test
    - Questions were taken directly from the manual given to the women
- Qualitative Measures: Questionnaire 2-4 months post-workshop
  - 13 question survey allowed women to answer in her own words
  - Assessed knowledge retained and strengths/weaknesses in training module
## RESULTS: QUANTITATIVE

### Pre/Post Test Results

<table>
<thead>
<tr>
<th></th>
<th>Pre-Test's Completed</th>
<th>Post-Test's Completed</th>
<th>Pre-Test % Correct</th>
<th>Post-Test % Correct</th>
<th>Significance</th>
</tr>
</thead>
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<tr>
<td>Training #1 Results</td>
<td>22</td>
<td>20</td>
<td>83.61%</td>
<td>90.18%</td>
<td>p = .015</td>
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<td>Training #2 Results</td>
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<td>91.67%</td>
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<td>Training #3 Results</td>
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<td>12</td>
<td>84.8%</td>
<td>89.58%</td>
<td>p = .105</td>
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<tr>
<td>Training #4 Results</td>
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<td>11</td>
<td>80.96%</td>
<td>92.61%</td>
<td>p = .036</td>
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<tr>
<td>Training #5 Results</td>
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<td>18</td>
<td>87.03%</td>
<td>91.32%</td>
<td>p = .064</td>
</tr>
<tr>
<td>Overall Results</td>
<td>91</td>
<td>79*</td>
<td></td>
<td></td>
<td>p = .0001</td>
</tr>
</tbody>
</table>

*This is the amount after the 3 outliers were removed*
RESULTS: QUALITATIVE

- 10 women (11% of women who initially took the pre-test) completed the post-questionnaire:

- A few consistent themes listed as important and recalled by the women:
  - Information about Department of Family and Children Services (DFCS)
    - Milestones toward healthy development
  - Understanding the accessibility of Medicaid
  - Improved hygiene practices to reduce risk of illness
RESULTS

- Results supported initial hypotheses
- Trends in behavioral change indicated in those who participated in the qualitative follow-up
- Consistent with previous research
- First steps in further understanding how maternal health literacy can improve overall maternal child health
This was a unique study

- Majority of prior research examined the link between low maternal health literacy and specific health outcomes
- Health literacy generates a large amount of attention
- With various modifications, improvement in this study is probable
DISCUSSION

- **Goals throughout this project and beyond:**
  
  - Understand more about the effectiveness of this specific training tool toward knowledge change
  - The exploration of the relationship between knowledge change and behavioral change
  - Examine what intervention changes are necessary to evoke short and long-term knowledge and behavior changes in the women
  - Break the Cycle of Disadvantage and Disability in these women’s lives
BREAK THE CYCLE

CYCLE OF DISADVANTAGE AND DISABILITY

ENVIRONMENT
- poverty
- poor community supports
- poor health services
- inadequate academic services

SELF WORTH
- despair
- substance abuse
- promiscuity

PREGNANCY
- poor prenatal care
- tobacco, alcohol & drug exposure
- risk of STDs/HIV

NEWBORN INFANT
- prematurity
- Fetal Alcohol Syndrome

RISK FACTORS
- infant with increased needs
- medical needs
- developmental needs
- increased irritability
- mother under stress
- increased demands
- lack of supports
- substance abuse

POTENTIAL OUTCOMES
- health concerns
- neurodevelopmental disabilities
- child abuse
- foster care placement
CYCLE OF CHANGE

Better Health Services and Community Support

- Heightened self worth and less substance abuse
- More knowledge of better prenatal practices
- Decreased prevalence of Fetal Alcohol Syndrome and premature births
- Less foster care placement and reduced abuse/neglect
Obstacles and Limitations:
- Not all women who took pre-test were able to stay for post-test
- Small sample size
- High turnover rate
- Transient nature of population
- Difficult to assess behavior changes

How we adapted:
- Implementation of a post-training questionnaire
RECOMMENDATIONS

- Use of validated tools
- Use longitudinal, randomized design study
- Measure additional outcomes prior to training
- Balance preventative and prenatal elements with current health factors of mother and child
- Follow up with the women more often
OVERALL LEARNING EXPERIENCE

- Important information and tools learned:
  - Adaptation and flexibility essential
  - A small sample size can create a significant research precedent
  - Qualitative data can revive a project and is often undervalued
  - Community partnerships are invaluable
  - The important balance between the health of the individual and the community’s wellbeing
I would like to acknowledge the following people for their guidance and commitment to this project and to me:

Dr. Shannon Self-Brown
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The ISDD Research Team
Dr. Evan Borenstein
Alton Brown, my partner throughout
My parents and sisters