Promising Practices in the Prevention and Treatment of Fetal Alcohol Spectrum Disorders

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1. PURPOSE OF STUDY

Identify, describe, and assess promising fetal alcohol spectrum disorders (FASD) prevention practices in the United States.

2. DEFINITIONS

For this investigation, we used the following definitions:

- Practice: a single technique or method to achieve a specific outcome
- Intervention: a combination of practices implemented to achieve specific outcomes

We found that most FASD services studied involve more than one practice.

3. METHODS

To identify FASD interventions/practices in the United States, our research team:

- Conducted extensive online and literature searches
- Sought input from FASD experts
- Obtained additional information from contact persons on their interventions
- Developed a database to document information

To identify FASD promising practices, our evaluation team:

- Reviewed interventions/practices to assess against National Registry of Evidence-based Programs and Practices (NREPP) criteria
- Identified interventions/practices that address NREPP criteria
- Described how eligible interventions/practices meet these criteria

Eligibility Criteria for Selecting Practices for NREPP Review

Interventions/practices had to:

- Address FAS directly or indirectly
- Involve changes in behavior in the target population
- Include an evaluation
- Be published in a peer-reviewed journal

NREPP Criteria for Research/Evaluation Designs

NREPP accepts:

- Randomized controlled trials
- Quasi-experimental designs
- Pre/post designs

NREPP does not accept:

- Pilot studies
- Case studies
- Observation

NREPP Strength of Evidence Criteria

- Reliability
- Validity
- Intervention fidelity
- Methods for addressing missing data and attrition
- Appropriate analysis
- Methods for addressing potential confounding variables

4. RESULTS

- 257 interventions/practices were identified and recorded in the database
- 40 interventions/practices were selected for NREPP review
- Only 8 interventions/practices were found to be eligible for NREPP rating

The other interventions/practices could not be included because:

- Our research team could not get enough information despite multiple attempts
- Additional information indicated the evaluation designs were unacceptable for NREPP
- Evaluation results were not yet available

Eligible Interventions/Practices

- *Parent-Child Assistance Program (PCAP)*, University of Washington, Departments of Psychiatry and Behavioral Sciences
- *Brief Intervention for Alcohol Use in Pregnancy*, Departments of Psychiatry, Obstetrics and Gynecology, Brigham and Women's Hospital
- *Brief Intervention With Support Partner*, Department of Psychiatry, Brigham and Women's Hospital
- *Cognitive Behavioral Intervention*, Department of Health Behavior, University of Alabama

4. RESULTS *Continued*

- *Project TrEAT (Trial or Early Alcohol Treatment)*, University of Wisconsin, General Internal Medicine
- *Project BALANCE*, Virginia Commonwealth University, Division of Addictions Psychology
- *The AR-CARES Program*, University of Arkansas, Center for Research on Teaching & Learning
- *Brief Intervention for Alcohol Use During Pregnancy*, UCLA, David Geffen School of Medicine, Department of Psychiatry and Biobehavioral Sciences

Experts are currently rating these interventions/practices against NREPP criteria for research design and strength of evidence. Six interventions focus on prevention, while the remaining two, AR-CARES and PCAP, provide both prevention and treatment services.

Evaluation Designs of Eligible Interventions/Practices*

- Randomized controlled trial with replications at two sites (n=1)
- Randomized controlled trial (n=6)
- Quasi-experimental design (n=1)

** Sample sizes for the intervention groups ranged from 42 in one study to 152 in another, and from 23 to 152 for the control groups, with little difference between the two for 7 of the 8 studies. Six of the 8 studies had sample sizes of more than 100. The PCAP intervention group totaled 221, but this number included participants in the original demonstration site and 2 replications conducted at 3 sites.*

Postintervention Followups

- Postdelivery (n=3)
- Postdelivery and 6, 12, and 18 months thereafter (n=1)
- 1 month (n=1)*
- 2 months (n=1)**
- 2 weeks and 12, 24, 36, and 48 months (n=1)*
- 4, 12, 24, and 36 months (n=1)***

** Interventions are for women of childbearing age at risk for an alcohol-exposed pregnancy (AEP).*
*** Pregnant women were contacted 2 months after receiving the intervention.*
**** The intervention was conducted right after delivery.*

Types of Interventions and Practices

- Prenatal care (n=5)
- Brief intervention including motivational interviewing (n=3)
- Use of take-home manual/workbook (n=4)
- Case management (n=2)*
- Contraception counseling (n=2)
- Education and self-help (n=1)
- Two physician counseling sessions (n=1)

** PCAP and AR-CARES case management services for women and children included home visits, advocacy, and linkage to community services (e.g., substance abuse treatment, health and mental health services, parenting classes, vocational education, and employment skills counseling.*

Target Populations*

- Pregnant women with alcohol problems (n=4)
- Pregnant women with alcohol problems and their partners (n=1)
- Women of childbearing age at risk for an alcohol-exposed pregnancy (n=2)
- Postpartum women (n=2)
- Infants (n=2)

** Although participants in all the studies were ethnically diverse, the majority were white in 5 studies, African American in two studies, and Hispanic/Latino in the remaining study.*

Ages of study participants ranged from 18 to 40 years, with an average age of 27 years.

Outcomes for Intervention Participants

When compared to the control groups, the intervention groups had:

- Greater reductions in drinking rates than for controls (n=5)
- Higher quit rates during pregnancy (n=4)
- Larger reduction in AEP risk (n=2)
- Increased linkage to community services (n=2)
- Better birth and/or developmental outcomes for infants (n=3)

4. RESULTS *Continued*

Examples of Outcomes

- The UCLA study intervention group was 5 times more likely than the control group to be abstinent by the 3rd trimester
- Birth outcomes were more favorable for women in this study's brief intervention group than for those in the control group
- Abstinence rates were highest among PCAP clients who spent more time with their case managers
- Reduced alcohol use was sustained over 4 years for most Project TrEAT participants
- PCAP and AR-CARES children had adequate health care and normal development

Examples of How Studies Addressed NREPP Criteria

- **Reliability:**
  –Collecting data on alcohol use and health behavior from subjects and their partners
  –Having high coefficients of internal consistency in outcome measures (Cronbach's alpha)
- **Validity:**
  Using instruments with measures used and recognized as valid in the field, such as:
  –T-ACE, TWEAK, and CAGE to identify women at risk for an AEP
  –Bayley Scales of Infant Development to assess a child's developmental status
- **Intervention fidelity:**
  –Providing intensive training to clinicians or case managers administering the intervention
  –Observing sessions and reviewing reports prepared by intervention staff
- **Missing data and attrition:**
  –Achieving high followup response rates (ranging from 74 percent to 99 percent)
  –Using statistical methods (e.g., multiple imputations) to account for missing data
- **Appropriate analyses:**
  –Using ordinary least-squares regression models to assess the effect of the intervention on number of drinks/day, percent of drinking days, and quantity-frequency after study enrollment
  –Conducting chi-square tests of significance to compare baseline and followup data between the intervention and control groups and survival analysis to assess ante-partum alcohol use
- **Addressing confounding variables:**
  –Using regression models to account for any statistically significant demographic, alcohol use, socioeconomic, and other "baseline" differences between intervention and control groups
  –Finding no statistically significant differences between the control and intervention groups

5. LESSONS LEARNED

- Women must be screened for prenatal alcohol use to prevent alcohol-exposed pregnancies
- Brief interventions are lowcost and effective in reducing the risk of AEPs
- Pregnant women getting brief interventions are less likely to drink if their partners are involved
- Nonmedical professionals serving pregnant, low-income, minority women in nationwide programs (e.g. WIC) can incorporate brief interventions into their services
- Primary care physicians have great potential to reduce drinking among childbearing women
- Comprehensive services can produce long-lasting benefits for women and their children

6. RECOMMENDATIONS

- Provide resources, training, and technical assistance to build evaluation capacity in community organizations providing FASD prevention and treatment services
- Promote greater collaboration between FASD researchers and practitioners to facilitate the development, testing, and delivery of evidence-based interventions and practices
- Include longer followups to ensure sustainable positive outcomes for women and children
- Support the expansion of comprehensive interventions
- Replicate promising practices at other sites

Since its replication at two other sites in Washington State, 12 intervention programs modeled on PCAP have been implemented in the United States and Canada.