Using Technology in Novel Approaches to Prevent Alcohol-Exposed Pregnancies

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Learning Objectives

- Identify the key components of evidence-based face to face interventions for alcohol-exposed pregnancy (AEP) prevention
- Provide examples of how face to face interventions can be transformed for technological delivery or data collection.
- Provide demonstrations of online or technologically-based AEP prevention programs
- Detail lessons learned and pilot outcomes from studies using technology to prevent alcohol-exposed pregnancies
Preconception Prevention

• Emphasis on AEP prevention before a woman becomes pregnant.

• The prevalence of AEP risk among U.S. women aged 15-44 is estimated at 7.3%.

Project CHOICES

- Major effort to decrease risk for AEP

- Four face-to-face motivational interviewing (MI) sessions over several weeks, with a separate contraception counseling session.

- Overall, the Project CHOICES intervention significantly decreased AEP risk.

Proportion At-Risk for AEP at Each Follow-up Visit

Source: Hanson et al 2017; funding from Indian Health Service cooperative agreement, award number H1UIHS300419
Preventing alcohol-exposed pregnancy among American-Indian youth

Jamie Jensen, DenYelle Baete Kenyon and Jessica D. Hanson

ABSTRACT
Research has determined that the prevention of alcohol-exposed pregnancies (AEP) must occur preconceptually, either by reducing alcohol intake in women planning pregnancy or at risk for becoming pregnant, or by preventing pregnancy in women drinking at risky levels. One such AEP prevention programme with non-pregnant American-Indian (AI) women is the Oglala Sioux Tribe (OST) Changing High-risk alcohol use and Increasing Contraception Effectiveness Study (CHOICES) Programme, which shows promise in reducing AEP risk in AI women aged 18 or older. A community needs assessment was conducted with key informant interviews and focus groups with an emphasis on how to expand OST CHOICES. To identify relevant inter-related themes, a content analysis was conducted on qualitative feedback from the focus groups and interviews. Altogether, key informant interviews were completed with 25 health and social service professionals. Eight focus groups were held with 58 AI participants, including adult women of child-bearing age, elder women, and adult men. Several sub-themes regarding the prevention of AEP with youth were identified, expanding the OST CHOICES curriculum into the schools, and the role of family and culture within AEP prevention.
Why use a web-based service?
CHOICES for American Indian Teens (CHAT)

Funding is from National Institute of General Medical Sciences of the National Institutes of Health under grant number 5P20GM121341.
What is a Standard Drink? Because different types of alcoholic beverages contain different amounts of alcohol, we ask people to count and record the number of standard drinks they have.

A standard drink is any drink that contains about 14 grams of pure alcohol. The percent of "pure" alcohol is expressed as alcohol by volume (ABV) and varies by beverage.

What is a Standard Drink?

| 1.5 oz shot of liquor (whiskey, vodka, rum, etc.) |
| 12 oz of regular beer |
| 12 oz of wine cooler |

How many Standard Drinks in each?

How many standard drinks are in a 24 oz can of Budweiser?

1
2
3
4
5

Correct!
There are 5 standard drinks in a 24 oz can of Joose.
ABV = 14%
My Thinking on Birth Control

On the following scale, please move the scale to the point that best shows how important it is to you to use birth control every time you have sex.

Not Important               Very Important

Why did you choose 95? What would have to happen to move that number up?

On the following scale, please move the scale to the point that best shows how sure you are that you can use birth control every time you have sex.

Not Sure               Very Sure

Why did you choose 35? What would have to happen to move that number up?

On the following scale, please move the scale to the point that best shows how ready you are to use birth control every time you have sex.

Not at all ready to use birth control every time   Actively and correctly using birth control every time

*The percentages indicate the number out of every 100 women who experienced an unintended pregnancy within the first year of typical use of each contraceptive method.
Thank you

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• Morgan Nelson, MS, CHOICES statistician
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Pilot Efficacy of an eHealth Intervention to Reduce AEP Risk: CARRII

8th International Conference on FASD
March 9, 2019 Session E4a

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eHealth Interventions

• Usually transform evidence-based F2F health behavior interventions for web delivery
• Not a static website
• Intervention uses functions enabled by web delivery
  • Automated, prompted assessment
  • Information provided via multimedia
  • Personalization to user based on prior answers
  • Interactivity to engage user, encourage exploration of alternatives, and encourage user choices and decisions
• May use weekly metering and self-monitoring HW to mimic F2F counseling
CARRII Home

Great job completing the How To Use tutorial.

It is now time to complete the Overview Core.

Click the CORES button to the left and select the Overview Core. The icon for the Overview Core is displayed in color and clickable. All other Cores will be grayed out because they are not yet available to review.
CARRII Structure

Cores

These are the six Core units for the CARRII program. During the first week, you should complete the Overview Core. A new Core then becomes available one week after completing the previous Core. This gives you time to practice the techniques learned in each Core before moving on to the next one. Previously completed Cores can be reviewed at any time.
CARRII Diaries for Self-Monitoring and Personalized Feedback
MI-consistent Components of CARRII

- Each Core begins with review of the past week’s diary
- Next the program elicits the user’s reactions and responds with reflections, feedback, and summaries
- Affirmations for completing steps
- After each major activity, open questions, a list of possible answers including open field text, and summaries personalized to her answers are generated
Examples of Personalized Feedback in CARRII

• Embedded within most Interactions
• Drinking, Pregnancy, and AEP Risk
• Diary feedback and charting
• Goal Setting
• Change Plan
• Certificate of Completion

• https://med.Virginia.edu/bht/interactions/
CARRII – Pilot RCT Design

• Recruited using Craigslist ads

• Measures at screening, pre-assessment, intervention, and post-assessment.

• After screening, participants receive an ID/password and login to complete a questionnaire and diaries recording drinking and contraception use for 2 weeks.

• Randomized to CARRII or a Patient Education website for 9 weeks.

• Complete a post-treatment questionnaire and 2 weeks of diaries at 3M and 6M.

• 75 women at risk for AEP participated
CARRII Pilot RCT Pregnancy Risk Outcomes

<table>
<thead>
<tr>
<th>Time</th>
<th>CARRII</th>
<th>PatientEd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>88.6%</td>
<td>74.3%</td>
</tr>
<tr>
<td>Post Treatment</td>
<td>69.7%</td>
<td>77.4%</td>
</tr>
<tr>
<td>6M FU</td>
<td>50%</td>
<td>61.3%</td>
</tr>
</tbody>
</table>

*p < .04
*p < .001
CARRII Pilot RCT Risk Drinking Outcomes

- Baseline: 77.1%
- Post Treatment: 64.5% (p<.02)
- 6M FU: 59.4% (p<.09)
CARRII Pilot RCT AEP Risk Outcomes

Baseline | Post Treatment | 6M FU
---|---|---
68.6% | 58.1% | 45.2%
60% | 33.3% | 31.3%

CARRII | PatientEd
---|---
p<.001 | p<.005
CARRII Pilot RCT—Results and Impact

• CARRII was the first fully interactive, fully automated Internet-delivered AEP risk reduction intervention

• Over 70% of women completed all 6 Cores, showing acceptability and relevance to the population.

• CARRII was pilot tested for efficacy in an RCT design and showed promise of efficacy to reduce AEP risk to 31.3%, equivalent to CHOICES

• Impact: CARRII could be scaled up to reach many women at risk for AEP
Next Steps

• Our team is planning a fully-powered trial of 350 women at risk for AEP
• RCT will utilize a SMART design to bump up the impact of CARRII on drinking
• We will oversample AI/Native American women and participants in addiction treatment program along with a general population of women at risk for AEP
Thanks to the CARRII Team

- Karen Ingersoll Ph.D., Principal Investigator
- Lee Ritterband Ph.D., Co-investigator
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CHOICES4Health

A Tablet-Based Intervention to Prevent Alcohol-, Tobacco-, and Marijuana Exposed Pregnancies

8TH INTERNATIONAL CONFERENCE ON FASD
MARCH 9, 2019 SESSION E4A

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We found in CHOICES....

- 70% of the women at risk of AEP were current cigarette smokers, and 40% smoked during their most recent pregnancy.

- Similar outcomes for women who completed 2 sessions versus all 4 sessions.

SO......we proposed CHOICES Plus
CDC funded randomized controlled trial tested a two-session CHOICES Plus intervention on the reduction of alcohol- and tobacco-exposed pregnancy.

**Two primary objectives:**

1) To adapt the CHOICES intervention for effective delivery in primary care settings in a large managed healthcare system

2) To add cigarette smoking as an additional target behavior to reduce the risk of a tobacco-exposed pregnancy
CHOICES Plus Participants

• 261 randomized
  – 131 CHOICES Plus (CP)
  – 130 Brief Advice + Referral (BA)

• Women patients were:
  – 31 years old
  – 47% Hispanic and 42% Non-Hispanic Black
  – 38% employed and 70% had incomes <20k
  – 41% were married or living with a partner.
**CHOICES Plus Results**

- **60.8%** of women who received the CHOICES Plus intervention had reduced risk of an AEP at 9 months
  - (23.4% more than the Information Only group).

- **69.8%** of women who received the CHOICES Plus intervention had reduced risk of a TEP at 9 months
  - (25.1% more than the Information Only group).

- **29.8%** of women who were smokers at baseline (n=118) and received the CHOICES Plus intervention reported no smoking at 9 month
  - (14.7% more than the Information Only group).
We found....

• 45% of the women in the CHOICES Plus study were current marijuana users, and

• The marijuana users were the least likely to reduce their risk of an alcohol- or tobacco-exposed pregnancy.

So......we proposed CHOICES₄Health
• An NIAAA funded randomized controlled trial that:
  
  – Targets the prevention of marijuana-exposed pregnancies as well as alcohol- and tobacco-exposed pregnancies
  
  AND
  
  – Seeks to make the CHOICES intervention more translatable to primary care settings by testing a computer tablet-delivered CHOICES intervention.
CHOICES4 Health (C4H)

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C₄H targets women at risk of pregnancy

AND

*Drinking Alcohol* at Risk Level

(>3 drinks/day and/or >7 drinks/week)

OR

*Smoking Cigarettes*

(at least weekly)

OR

*Using Marijuana*

(2 times/month)
CHOICES4Health

- Recruiting 240 women patients of child bearing age (18-44) who are at risk of pregnancy and using alcohol, cigarettes, and/or marijuana.

- Using active and passive recruitment strategies in 12 Harris Health Community Health Center clinics serving adults:
  
  - BCM clinics:
    - Casa de Amigos, Gulfgate, MLK, Northwest, Valbona, Strawberry
  
  - UT clinics:
    - Acres Homes, Aldine, Baytown, Settegast, E.A. Squatty Lyons, El Franco Lee

40% of the CHOICES Plus participants came from the poster recruitment.
WOMEN 18 TO 44 YEARS OF AGE

If you drink alcohol, smoke tobacco, or use marijuana – even in small amounts – you may be eligible for our research study.

✓ You may receive up to $220 for completing this study.
✓ You will learn about women’s health behaviors.
✓ All information will be totally confidential.

For more information about Project CHOICES4Health:
Call: 844 - 777 - 4278 (HBRT)
Text: 512 - 954 - 7959