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Biomarker feedback intervention for smoking cessation among pregnant Alaska Native women

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Presentation Overview

- Smoking in pregnancy
- Smoking cessation intervention study
 - What we did
 - How we did it
 - What we found
- What now?



Health risks associated with smoking cigarettes in pregnancy

- Preterm birth
- Stillbirth
- Low birth weight
- Miscarriage
- Placental complications
- Premature rupture of membranes
- Sudden infant death syndrome
- Exposure to cancer causing chemicals



- AN women 3 times more likely to smoke cigarettes in pregnancy compared to White women (27% vs 8.7%) and other ethnic groups (7%) in Alaska
- How can we try to reduce this disparity?
 - Create a culturally tailored tobacco cessation intervention and test it



Phase 1: Identify level of tobacco exposure in mother's and their babies

- When smoke a cigarette, exposed to nicotine and chemicals that can cause cancer, like NNK
- The body breaks down nicotine into cotinine and NNK into NNAL



- Cotinine and NNAL last longer in the body and are therefore better indicators of tobacco exposure
- We found a moderate relationship between maternal urine cotinine levels and infant urine NNAL levels



Phase 2: Develop an intervention that provides pregnant women with information about their unborn infant's exposure to cancer causing agents

- Individual interviews with pregnant and postpartum women and with support persons (family/friends/partners)
- Got input on best way to present biomarker feedback information in an intervention tailored to help pregnant AN women to stop smoking cigarettes



Phase 3: Determine if intervention is feasible and effective in helping women stop using tobacco

- Evidence that biomarker feedback combined with cessation could reduce smoking in pregnancy
- This study involved testing pregnant woman's urine for cotinine and showing her how this related to her baby's potential exposure to NNAL, a chemical in tobacco shown to cause cancer

Recruitment



The MAW Study

Motivating Tobacco Cessation in Pregnant Alaska Native Women

To participate in the research study you must be:

- An Alaska Native woman
- 18 years or older
- Pregnant, 28 weeks or less
- Currently using cigarettes
- Planning to deliver at Alaska Native Medical Center

The Alaska Native Tribal Health Consortium, Southcentral Foundation (SCF) and Mayo Clinic are working together to determine better ways to help motivate pregnant Alaska Native women to quit using tobacco.

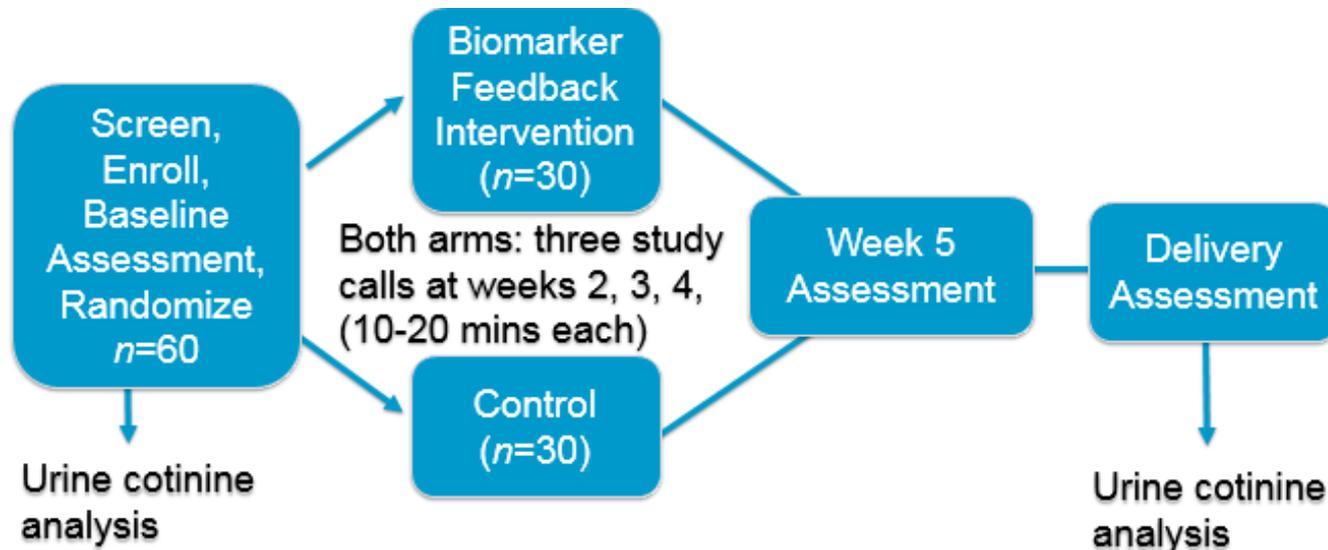
Participation includes a five-week study, a follow-up interview after delivery, and enrollment in the SCF tobacco program. Participants will receive a \$25 gift card after each interview as a thank you.

To participate, please contact:
(907) 229-3088



Study design

- All participants received standard of care cessation counseling based on 5A's
 - Intervention group also received personalized biomarker feedback information.



Results

- Both intervention and control groups were similar
 - Only significant difference was more control persons were married/partner
 - All enrolled were medium to high readiness to quit



Results

- 26% quit in both intervention and control groups
- Percent tried to quit since enrollment:
 - 65% intervention
 - 83% control



Conclusions

- Study supports feasibility and acceptability of providing biomarker feedback within a clinical care delivery system
- But, biomarker feedback did not improve smoking cessation during treatment compared to usual care



Possible reasons for study findings

- Improved cessation rates may be outcome of programmatic changes influenced by the study
 - Included more active outreach to pregnant women who smoked
 - Placement of a cessation counselor in an accessible location
- Biomarker feedback may not be necessary if proactive outreach and resources can be easily accessed



Where to go from here?

- Further investigation needed to:
 - Assess alternative messaging appeals and delivery channels for communicating risk information on fetal NNAL exposure
 - Evaluate use of newborn's exposure to NNAL as an approach for demonstrating secondhand smoke exposure and preventing relapse after baby is born
 - Follow up with participants to investigate risk factors for resumption of smoking and resiliency factors for those who stayed tobacco free



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