Development of a Behavioral Enhanced Perinatal Intervention for Cessation (B-EPIC) in Women with Opioid Use Disorder

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BACKGROUND

- Pregnant women with opioid use disorder (OUD) are four times more likely than their counterparts to smoke.[1]
- Smoking is the leading cause of preventable adverse birth outcomes.[2,3]
- Smoking is associated with increased severity and duration of neonatal abstinence syndrome (NAS).[3]
- Tobacco cessation has also been associated with a 25% increased likelihood of continued sobriety.[2]
- To date, there are no current tobacco treatment programs that have demonstrated consistent success for pregnant women with OUD.

PURPOSE

- Describe an innovative model to guide tobacco treatment for pregnant women with OUD
- Test feasibility of the Behavioral and Enhanced Perinatal Intervention for Cessation (B-EPIC) program

MODEL DESIGN

- The model was developed from qualitative interviews of women who maintained smoking abstinence for at least six months postpartum (Figure 1).
- The model guides B-EPIC, which additionally incorporates four core elements:
  1) Individualized tobacco treatment with a certified tobacco treatment specialist (CTTS)
  2) Biomarker validation and feedback (urine cotinine and carbon monoxide)
  3) Active engagement in adoption of healthy behaviors
  4) Pharmacotherapy as needed

Figure 1. Smoking Cessation Model for Childbearing Women
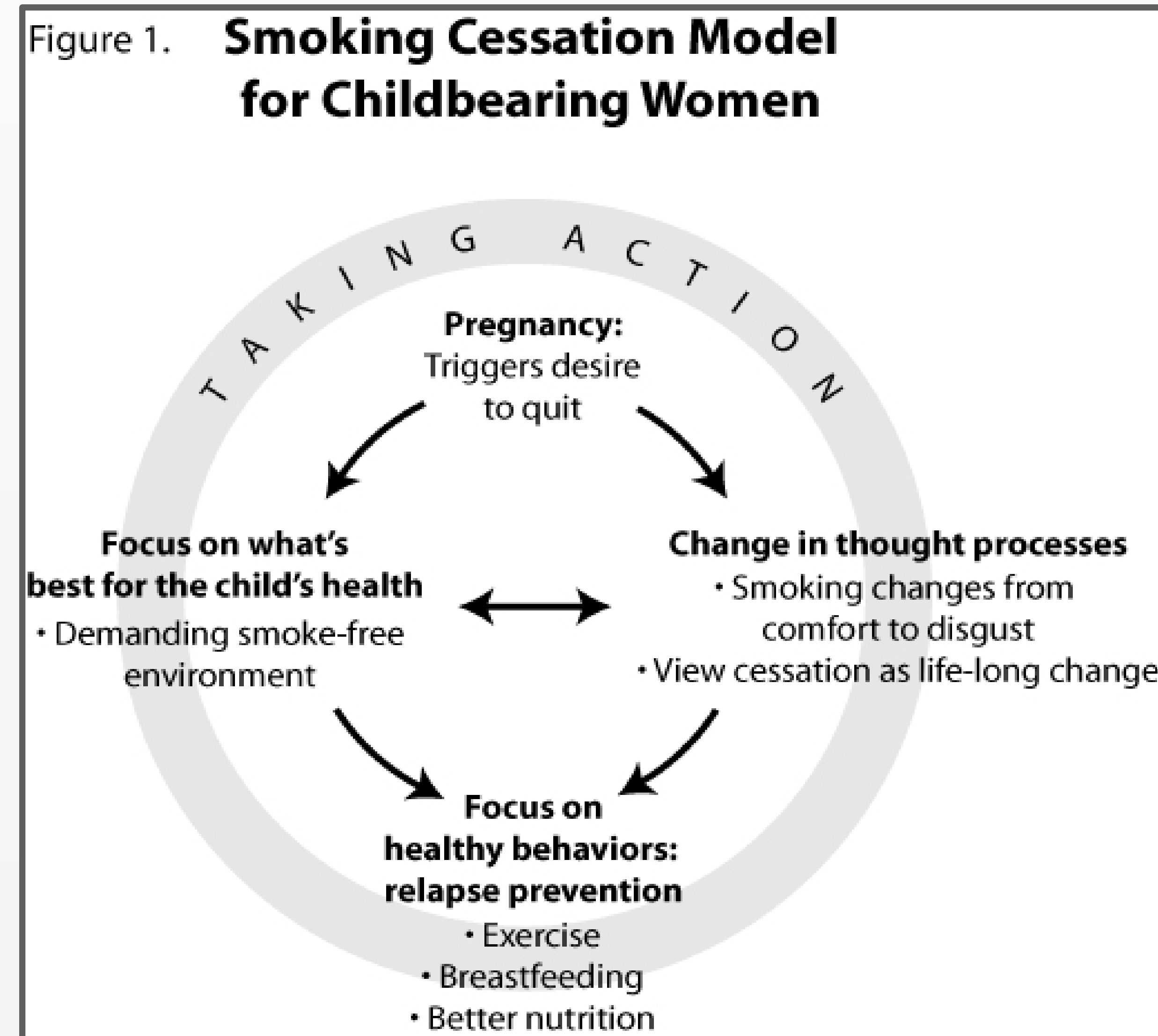
METHODOLOGY

Design

- An ongoing two-group randomized controlled clinical trial (anticipated n=100) is testing the feasibility and effectiveness of B-EPIC in an outpatient prenatal clinic providing medication assisted treatment (MAT) for pregnant women with OUD.
- Eligibility:
  ➤ Less than 20 weeks gestation
  ➤ Current smoker (validated by urine biomarker)
  ➤ Age 18-44
  ➤ Ability to read and write in English
- Intervention
  ➤ Monthly one-on-one tobacco treatment sessions with the research nurse/CTTS
- Control
  ➤ Treatment as usual with their healthcare provider

B-EPIC INDIVIDUALIZED COUNSELING

- Effects of Smoking on Pregnancy and Fetus
- Addiction Pathway
- Smoking and Long-Term Sobriety
- Triggers
- Cost of Smoking
- Smoke-free Home
- Exercise
- Nutrition

- Effects of Secondhand Smoke on Children
- Smoking and NAS
- Effects of Smoking on Own Health
- Coping
- Withdrawal
- Smoke-free Car
- Breastfeeding
- Maintenance

Data Collection

- Four data collection visits:
  ➤ Enrollment (prior to 20 weeks gestation)
  ➤ 3rd trimester (28-34 weeks gestation)
  ➤ Early postpartum (1-2 months postpartum)
  ➤ Late postpartum (5-6 months postpartum)
- Objective measures:
  ➤ Urine cotinine
  ➤ Expired Air Carbon Monoxide (EACO)
  ➤ iCup drug analysis
  ➤ Weight
- Subjective measures via self-report and online survey:
  ➤ Nicotine replacement therapy (NRT)
  ➤ Tobacco use (type, susceptibility, dependence)
  ➤ Perceptions of use and safety
  ➤ Secondhand smoke (SHS) and vapor exposure
  ➤ Other substance use
  ➤ Psychosocial, lifestyle, and safety measures
  ➤ Health behaviors, birth outcomes, and clinic/hospital visits are collected via ongoing medical record review

Data Collection: Intervention participants only, at counseling visits

- Smoking status (cigarettes per day)
- Use of NRT
- Individualized tobacco cessation education topics discussed

FEASIBILITY AND EFFICACY
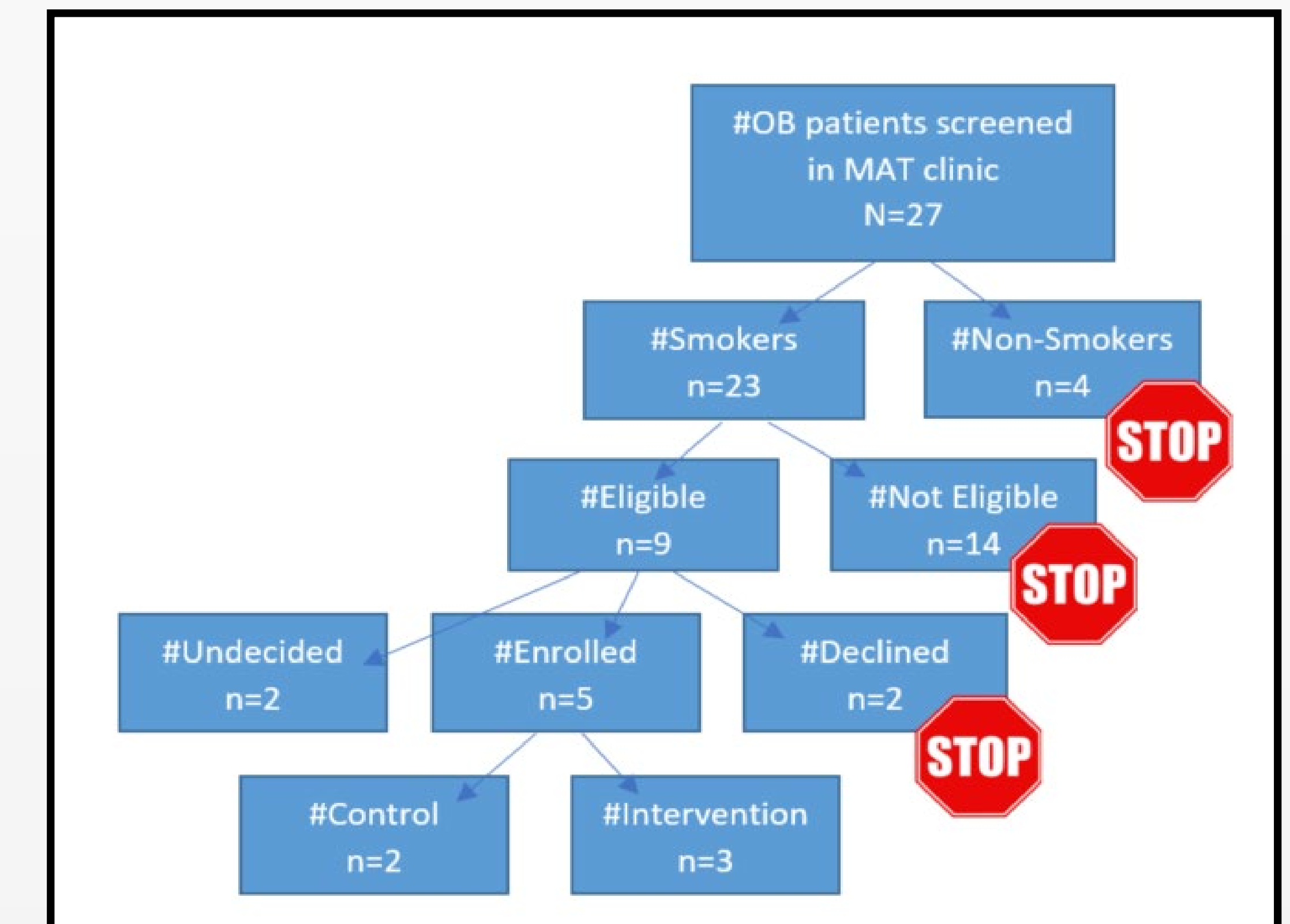
- Since B-EPIC initiation in December 2018, 9 patients were eligible, and 5 participants are currently enrolled (2 to control, 3 to intervention).

CONCLUSIONS AND IMPLICATIONS

- Incorporation of narratives from perinatal women with sustained tobacco abstinence is important in tailoring an intervention.
- B-EPIC is a promising and feasible approach to providing tobacco treatment in prenatal clinics for women with opioid use disorder.
- Future analysis will: 1) assess the impact of B-EPIC on maternal tobacco use and stage of change, 2) determine the impact of B-EPIC on tobacco-related adverse infant health outcomes, and 3) compare health care utilization and costs incurred between participants who receive the B-EPIC intervention and those that receive usual care.

ACKNOWLEDGEMENTS