Unplanned Pregnancy as a Risk Factor for Involuntary Tobacco Exposure in Children from Inner-City Families

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Define the problem—
Children vs Environmental Tobacco Smoke (ETS)

- Health impacts

- Cognitive and behavioral impacts

- Later use

•Acute asthma, decreased pulmonary function, wheezing, middle ear infections, higher incidence of lower respiratory tract infection.
•Poor academic performance, attention deficit disorder, and hyperactivity.
•Highly exposed children are at increased risk for tobacco use during adolescence.

Define the problem-
Children vs ETS exposure

- 22 million US children

- Social distribution

- Recent research findings

| Prenatal ETS exposure | → | Stable health behaviors | → | Increased risk among urban-low income families | → |

Speculation:
1) Unplanned children are in increased risk of ETS exposure during pregnancy;
2) Mothers are reluctant to change their risk behaviors after recognition of pregnancy;
3) More likely to happen to children from urban-low income families due to increased tobacco use of parents.

Facts about Unplanned Pregnancy

- Over 3 million annually

- 2.3 million women in teens and twenties

- Urban low-income families

The unplanned pregnancy rate remained constant between 1994-2001. Especially high among the unmarried, low-income, less educated and minority women.

Disproportionate risk

Smoking Urban Low-income parents w/ unplanned children

Urban low-income parents who smoke

Parents who smoke

Our hypothesis is unplanned pregnancy as an independent factor in increasing children's ETS exposure rate.
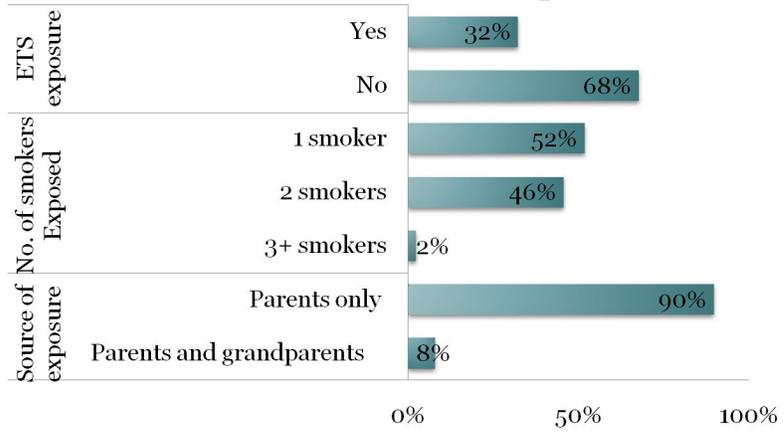If the hypothesis is valid, we want to estimate to what extent the pregnancy intention alters the likelihood of ETS exposure in children

Methods

- Cross-sectional in-person survey

- 399 children aged 7-10 attending Children's Hospital of Michigan, Detroit, MI
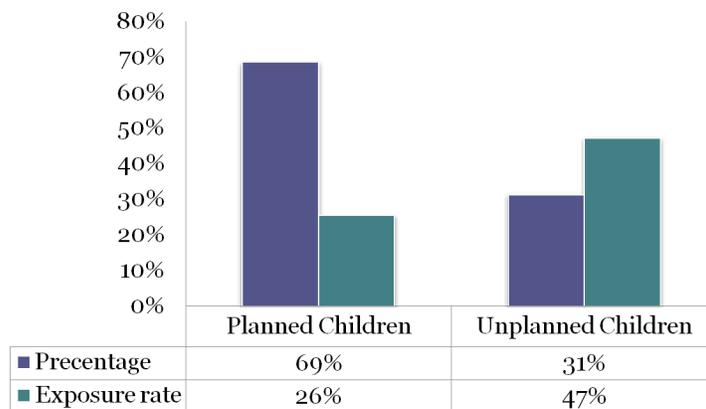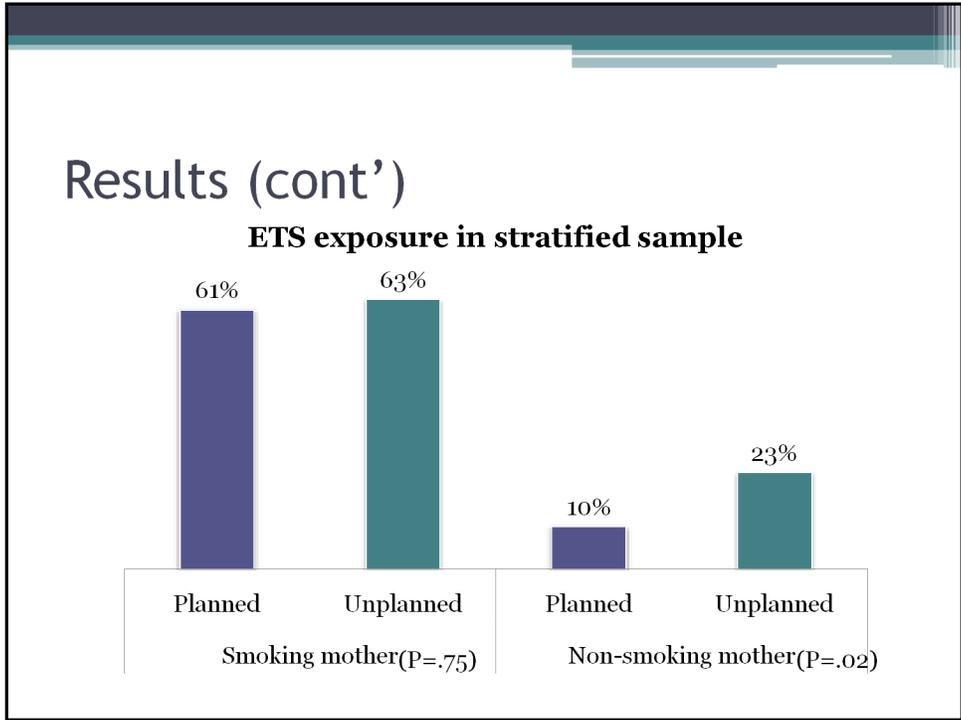
Results

Levels and Sources of ETS exposure

ETS exposure	Yes	32%
	No	68%
No. of smokers Exposed	1 smoker	52%
	2 smokers	46%
	3+ smokers	2%
Source of exposure	Parents only	90%
	Parents and grandparents	8%

Results (cont')

Disproportionate exposure rate

	Planned Children	Unplanned Children
Precentage	69%	31%
Exposure rate	26%	47%

We focused on exposure to daily smokers at home during the past year as a proxy of ETS exposure.

Results (cont')

ETS exposure in stratified sample

Also, we found that smoking mothers are two times more likely to have unplanned children. (47.5% vs 20.5%)

Results (cont')

Predictors Associated with Current ETS Exposure

Predictors	aOR	95% CI
Planned/Unplanned Children	2.05	(1.27, 3.30)
Maternal Race	1.06	(0.53, 2.15)
Birth Order	1.23	(0.99, 1.54)
Maternal Education	0.42	(0.28, 0.62)
Marital Status	0.59	(0.36, 0.98)
Parenting Satisfaction	0.82	(0.43, 1.58)

The logistic regression model used here is:

P(exposure) = f(unplanned pregnancy, race, birth order, maternal education, marital status, parenting satisfaction).

Limitations

- Hospital sample may not be generalizable
- Data were self-reported

Discussion

- ETS prevention
  - Early and continuous
  - Special focus on high risk populations

High risk population: low income, low educated, African-American race, young maternal age, not married, have multiple children in home and active smoking mothers.

Discussion (cont')

- Unplanned pregnancy prevention
  - ▫ Benefit for future children
  - ▫ Incorporating ETS prevention

Thank you!

- Thanks to Children's Research Center of Michigan
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