



**WORLD TRADE CENTER
PREGNANCY OUTCOME STUDY
Mount Sinai School of Medicine**

Overall Goals

To evaluate the impact of toxic pollutants released from the World Trade Center on September 11 and associated psychological stress on the health of pregnant women and their infants



Key Issues being Investigated

- Levels of exposures to pollutants among pregnant women at or near WTC on 9/11
- Levels of stress, anxiety and depression in exposed women
- Effects of multiple pollutants and stress/anxiety on perinatal outcome and infant growth and development at least to age 2

Study Design

- Prospective study of close to 200 eligible women
- Obtain detailed questionnaire data, blood, urine and breast milk samples for PAH and other chemical analysis
- Ascertain pregnancy outcome
- Evaluate infant growth (weight, height, head circumference) and cognitive and psychomotor development at ages 9 months and 2 years

Research Conducted to Date

- 178 eligible women have been assessed
- Another 25 women have agreed to participate
- Questionnaires have been obtained on 178 women and biological specimens on 162 women
- 9 month assessments have been completed on 42 infants

Location of Mothers at 9 AM on 9/11/01

| Zones | | No. | % |
|------------------|--------|-----|-------|
| Murray Street | Zone 1 | 74 | 42.1 |
| Chambers Street | Zone 2 | 66 | 37.5 |
| Canal Street | Zone 3 | 32 | 18.2 |
| Brooklyn Heights | Zone 4 | 3 | 1.7 |
| East New Jersey | Zone 5 | 1 | 0.6 |
| | Total | 176 | 100.0 |

Trimester of Exposure to 9/11 Preliminary Findings

| | No. | % |
|--------------------|------------|--------------|
| Prior to pregnancy | 6 | 3.4 |
| First trimester | 63 | 35.8 |
| Second trimester | 61 | 34.7 |
| Third trimester | 46 | 26.1 |
| Total | 176 | 100.0 |

Sociodemographic Characteristics of 177 Participants

| | % |
|---------------------|-------------|
| White | 72.3 |
| Age \geq 30 | 80.5 |
| Married /Common law | 95.9 |
| College graduate | 83.3 |
| Employed | 87.8 |

Pregnancy Outcome Preliminary Findings

| | WTC Cohort | Mt. Sinai Cohort |
|-------------|-----------------------|-----------------------------|
| Singletons | 164 | 2779 |
| Twins | 7 (3.7 %) | 105 (3.8 %) |
| Miscarriage | 1 | |
| Total | 172 | 2884 |



Conclusions

- **This pregnant population is older, more educated and has fewer minorities than NYC in general**
- **The levels of stress and depression are lower than what has been reported in previous surveys of NYC residents**

Future Plans

- **Determine whether the WTC destruction adversely affected birth outcomes, such as, birth weight and gestational age**
- **Analyze second set of questionnaires on stress and depression on 9/11/02**
- **Analyze biomarkers of stress response**
- **Evaluate the effects of WTC on infant growth and development**



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