Factors Associated with Contraceptive Nonuse Among Obese Women

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EPIDEMIOLOGY

MATERNAL CHILD HEALTH

OBSTETRICS & GYNECOLOGY

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The Obesity Epidemic

- **Prevalence**: 31.9% among reproductive-aged women 15-44

- **Risk factors**: Racial/ethnic minority, less education, poverty/low SES

- **Maternal/fetal risks**: Gestational diabetes, hypertensive disorders of pregnancy, C-section, congenital anomalies, shoulder dystocia, prematurity, stillborn

Flegal 2012, Wuntakal 2009

Pregnancy Intention in the US

51% Intended

49%
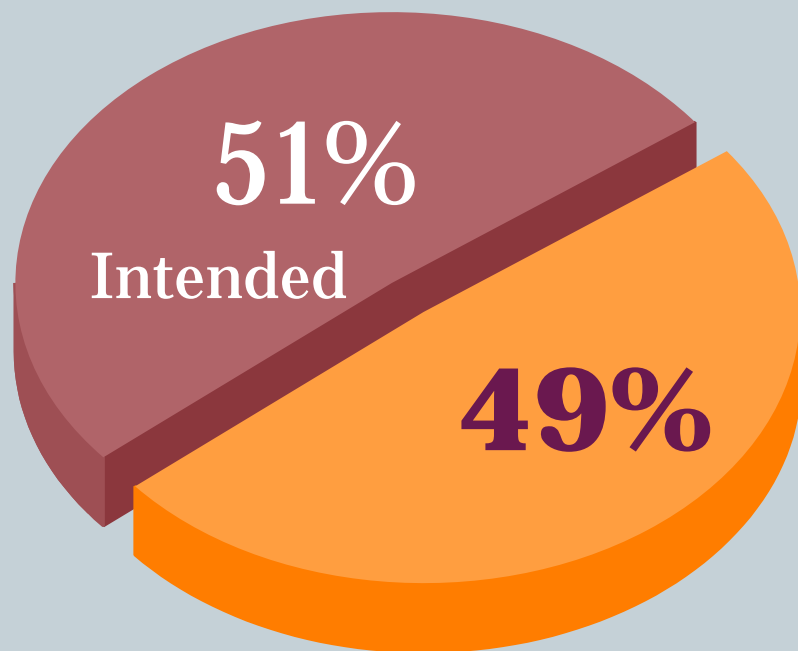
6.7 million pregnancies
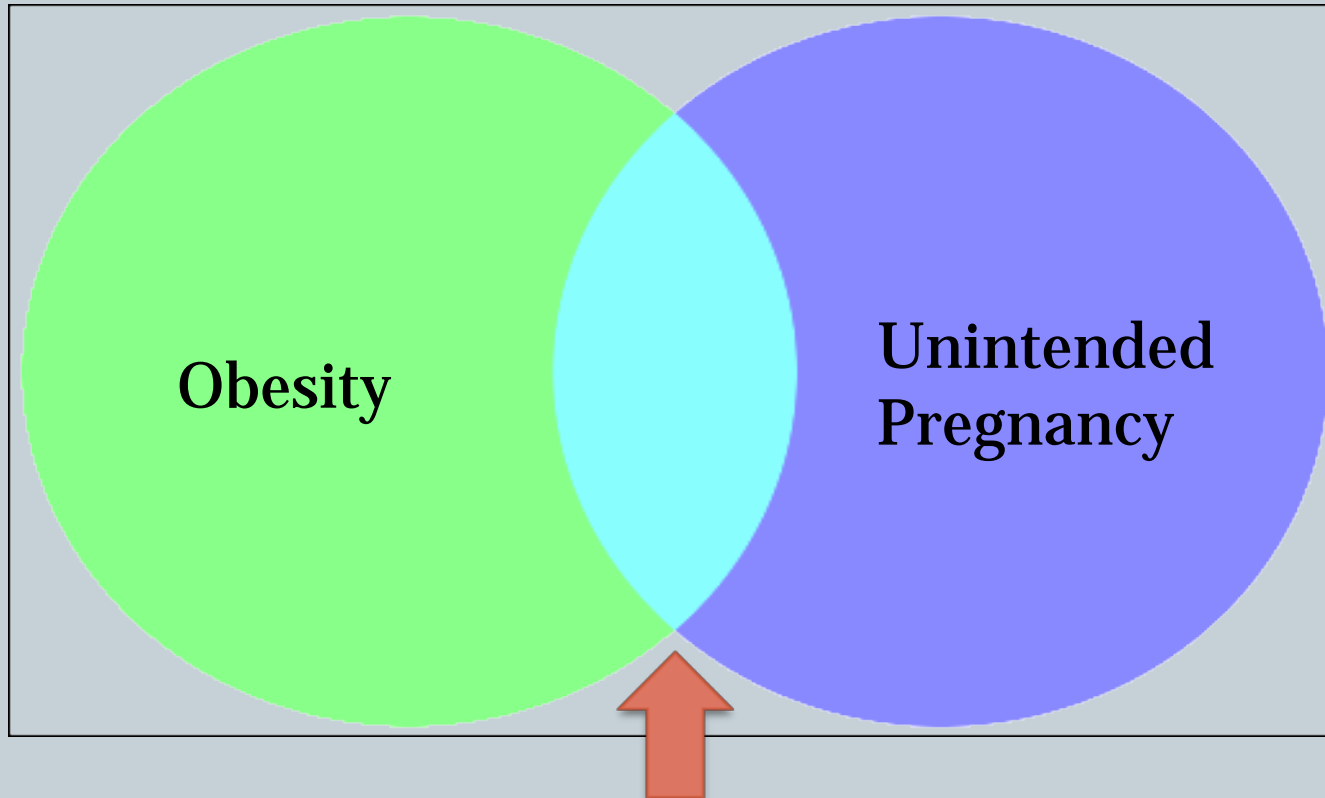UNINTENDED =
Unwanted + Mistimed

The Unintended Pregnancy Epidemic

- **Risk factors**: Racial/ethnic minority groups, lower SES, lower education

- **Maternal/fetal risks**: Later to prenatal care, risk behaviors during pregnancy, preterm birth, low birth weight, postpartum depression

Finer 2011, Shaw 2011
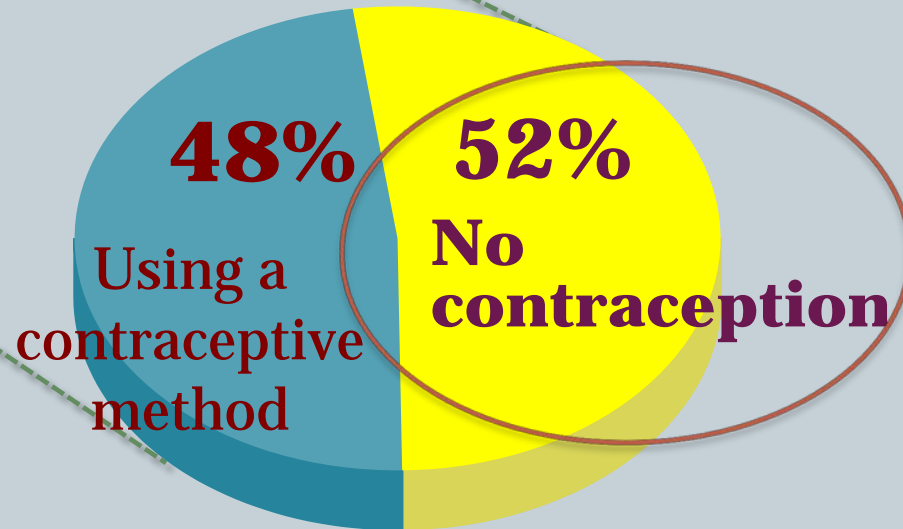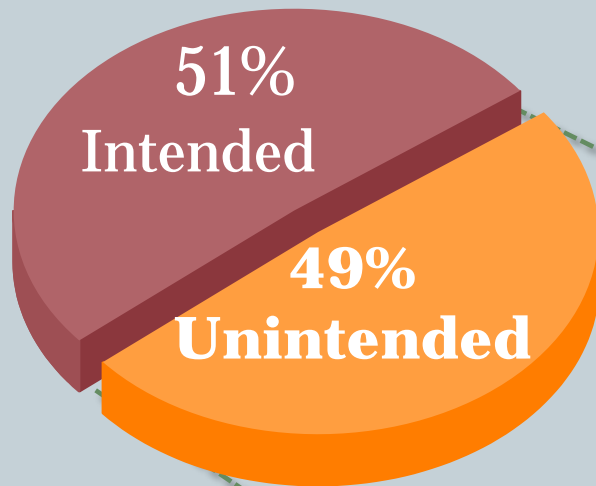
Overlapping Epidemics

Obesity

Unintended Pregnancy

Obesity + unwanted/mistimed pregnancy = ⇧Risks

Causes of Unintended Pregnancy in US

51% Intended

49% Unintended

48% Using a contraceptive method

52% No contraception

Contraceptive Nonuse in the US

Factors associated with nonuse

- **Demographic**: older age (>40), black race, low income, less education

- **Reproductive health**: No current partner, infrequent sex, prior dissatisfaction with contraceptive method, ambivalence about getting pregnant, perceived difficulty getting pregnant

- **Health services**: Lack of family planning services such as contraceptive counseling

Frost 2007, Wu 2008, Upson 2010, Lee 2011, Kaneshiro 2008

Obesity and Contraceptive Nonuse

- From 23-33% of sexually active obese women do not use contraception
  - Same or higher than normal weight women, despite obese women's higher risks from unplanned pregnancy

- Factors associated with contraceptive nonuse have not been studied among obese women considered separately

Finer 2011, Kaneshiro 2008, Chuang 2005, Vahratian 2009, Littman 2011

Study Aims

1. To describe contraceptive nonuse and use among obese women in a population based sample

2. To identify factors associated with contraceptive nonuse among obese women

Methods

- **Study design**: Unmatched case control
- **Data collection**:
  - National Survey of Family Growth (NSFG) 2006-2010
  - 12,270 women aged 15-44
  - Data collected through in-home interviews with trained interviewers
  - Weighted and nationally representative for race, ethnicity, age
  - Response rate 76%

Methods

- **Study population**
  - Inclusion criteria: Sexually active women at risk of unintended pregnancy
  - Exclusion criteria:
    - No BMI data (adolescents)
    - Never had sex with a man
    - Sterilized or hysterectomy
    - Partner sterility
    - Trying to get pregnant
    - No sex in past 3 months

Measures

- **Outcome**:
  - Cases = contraceptive nonusers
  - Controls = users of any method
- **Risk factors**:
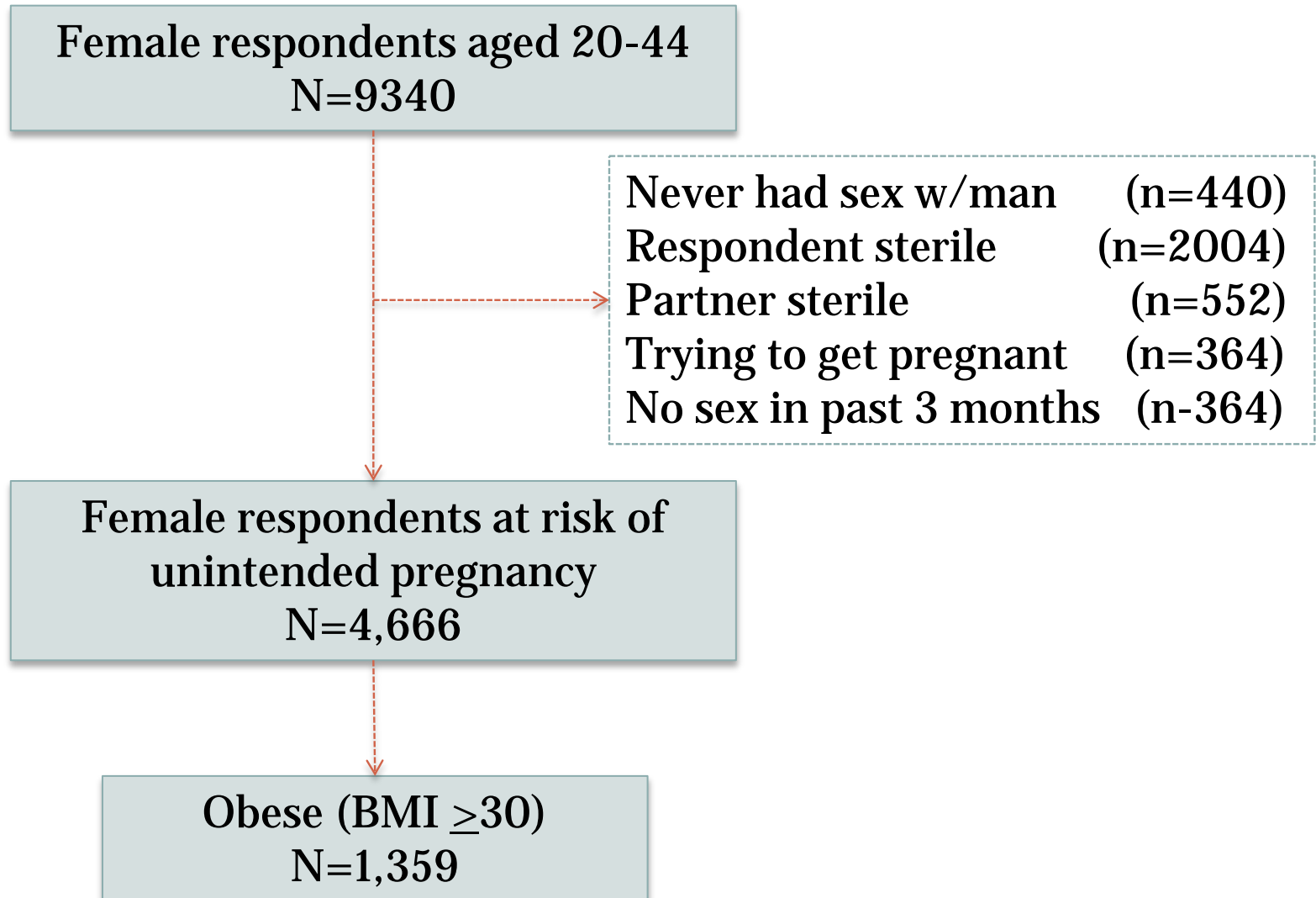 - **Demographics** (age, race/ethnicity, education, foreign born status, marital status, income)
  - **Reproductive health** (parity, # partners, frequency of sex, prior dissatisfaction with contraception, future intention to get pregnant, perceived difficulty getting pregnant, prior abortion)
  - **Health services** (discussed contraception with a provider or had pap in past 12 months)

Data Analysis

- **Descriptive**: Cases vs controls

- **Univariate**: Individual RFs by case/control status

- **Prediction model**:
  - Sequential backwards stepwise regression with inclusion of all a priori RFs & exclusion of p>0.1
  - Generalized linear model with log-link function to directly estimate RRs and 95% CIs

Results-Study Selection Methods

Female respondents aged 20-44
N=9340

Never had sex w/man   (n=440)
Respondent sterile   (n=2004)
Partner sterile   (n=552)
Trying to get pregnant (n=364)
No sex in past 3 months (n-364)

Female respondents at risk of
unintended pregnancy
N=4,666

Obese (BMI $\geq$30)
N=1,359

Results-Contraceptive Nonuse and Use

Contraceptive Methods Among Obese Women

Injectable 6%
Implant 1%
Ring 2%
Patch 1%
IUD 10%
No method 21%
Less effective 35%
Pill 24%
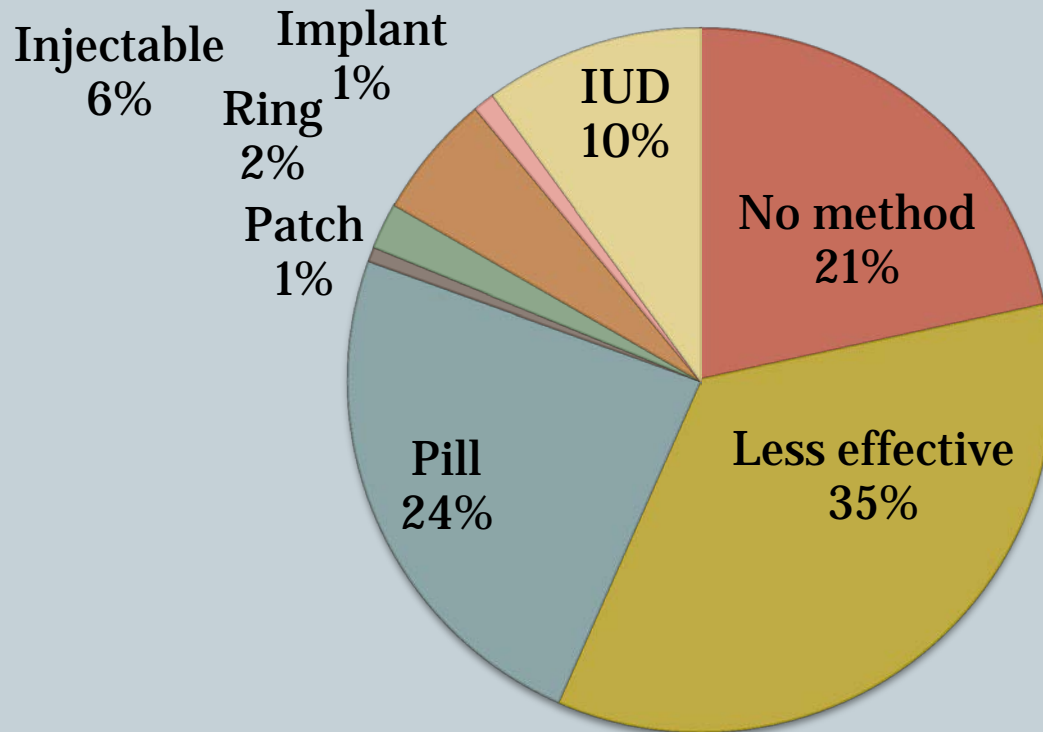
Results: Demographics

Risk factor	Nonuser (n=292) %	User (n= 1,067) %
Age		
20-24	15	30
25-29	24	20
30-34	13	22
35-39	30	17
40-44	18	11
Race/ethnicity		
Non-Hispanic white	53	56
Non-Hispanic black	27	15
Hispanic	11	21
Foreign born	6	15
High school or less education	53	43
Married	45	54
Income <100% of FPL	24	23

Results: Final Prediction Model for Nonuse

Risk factor	Obese RR (95% CI)
Age 35-40	**1.7 (1.1-2.6)**
Non-Hispanic Black race	**1.4 (1.0-2.0)**
Foreign born	**0.4 (0.2-0.8)**
Parity of 1 Parity ≥2	1.5 (1.1-2.2) 1.6 (1.1-2.2)
Single	1.4 (1.0-2.0)
Frequency of sex over past 4 weeks < 4 times	1.7 (1.3-2.2)
Difficult to get pregnant	1.9 (1.4-2.5)
Prior abortion	0.7 (0.5-1.0)
Discussion of contraception with a provider in past 12 months	0.5 (0.3-0.7)
Pap in past 12 months	0.8 (0.6-1.0)

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Summary of findings

- Obese nonusers more likely to be older, non-Hispanic black, single, to have sex less frequently, and to perceive that they are unlikely or unable to get pregnant

- Obese nonusers and users did not differ by SES

- Obese nonusers more likely to be parous (either 1 or 2+ prior births)

- Having discussed contraception with a provider is associated with contraceptive use among obese women

Strengths & Limitations

Strengths

- Population-based data
- Able to identify women at risk of unintended pregnancy
- Minimal missing data

Limitations

- Self-reported weight
- Recall bias
- Unmeasured confounding

Conclusions

- Efforts to decrease nonuse among obese women should focus on older, non-Hispanic black, single, parous women across all socioeconomic strata

- Increasing contraceptive counseling in this high-risk population may improve contraceptive uptake and decrease unintended pregnancy

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