Sociodemographic and Health Factors Associated with Infertility Among U.S. Women: 2022-2023 National Survey of Family Growth Data

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Introduction

- WHO reports that 1 in 6 people of reproductive age worldwide experience infertility in their lifetime with an estimated 186 million individuals affected by infertility globally[1]
- Common identifiable factors associated with infertility include structural abnormalities of the female and male reproductive systems, ovulatory dysfunction, and tubal diseases[2]
- Lifestyle and social elements have been shown to influence fertility such as smoking, drug use, and obesity[3]
- About 15% of couples experiencing infertility do not have an identifiable cause

Objective

This study aims to assess the various sociodemographic factors that may be associated with infertility among women in the United States.

Methods

- Cross-sectional analysis of women aged 15-49 using 2022 – 2023 National Survey of Family Growth (NSFG), with infertility defined as reporting attempts to conceive for 12 months or longer (figure 1)
- Data analysis using R (version 2025) with statistical significance was assessed using two-sided tests with $p < 0.05$
- Descriptive analyses performed using the NSFG variable TRYPREG12, which assesses whether a respondent had attempted to become pregnant for 12 months or longer
- Covariates included those identified through literature review and consistent with Centers for Disease Control (table 1)

Demographic characteristics (age, race, ethnicity, etc.)

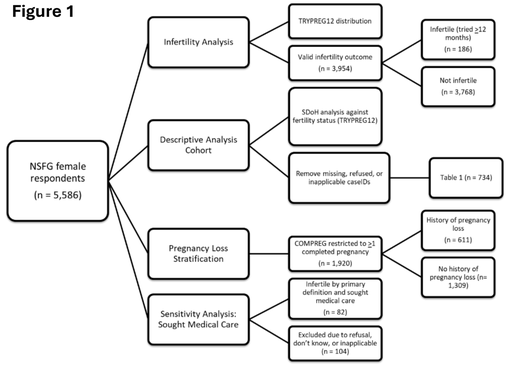
Socioeconomic factors (educational attainment, marital status, etc.)

Health status (BMI, self-rated health)

Health behaviors (smoking, alcohol use, etc.)

- Multivariable regression analyses using survey-weighted logistic regression models to estimate adjusted odds ratios (aORs), 95% CI

Figure 1



Results

A total of 5,586 women participated in the 2022–2023 National Survey of Family Growth. After excluding respondents with missing or inapplicable data for the primary infertility outcome (TRYPREG12), 3,954 women were included in the primary regression analysis.

Table 1: Sociodemographic and reproductive characteristics of women by self-reported infertility status (≥12 months attempting conception), NSFG 2022–2023

Characteristic	Fertility Status		
	Women (n = 734)		
	Tried ≥ 12 months (Infertile)	Did not try ≥ 12 months (Not infertile)	Don't know/ refused
Age (mean +/- SE)	33.12 (0.69)	32.27 (0.20)	35.69 (3.00)
Race			
White	59%	55%	32%
Black	13%	14%	10%
Hispanic	18%	20%	22%
Other	9%	12%	35%
Marital Status			
Married	71%	38%	35%
Living with partner, unmarried couple	15%	13%	6%
Employment Status			
Working full-time	59%	50%	27%
Working part-time	20%	18%	20%
Temporarily not working, but employed	1%	4%	5%
BMI			
Normal weight (BMI 18.5-24.9)	26%	35%	24%
Overweight (BMI 25.0-29.9)	22%	23%	8%
Obese (BMI >=30)	41%	28%	13%
Alcohol Consumption History			
None/ not applicable	3%	1%	7%
Any alcohol use	97%	100%	93%
Fertility History			
Completion of ≥1 pregnancy			
Yes	57%	48%	50%
No	43%	52%	50%

In survey-weighted multivariable logistic regression adjusting for age, race/ethnicity, marital status, body mass index (BMI), general health, educational attainment, insurance coverage, and health behaviors, several factors were independently associated with infertility (Table 2).

Table 2: Multivariable survey-weighted logistic regression of infertility among women using NSFG 2022–2023 dataset

Variable	Adjusted OR (aOR)	95% CI	p-value
Age (per year)	**0.94**	**0.91–0.97**	**<0.001**
Race (ref: White)			
Black	2.61	0.91–7.47	0.082
Hispanic	1.74	0.66–4.61	0.27
Marital status (ref: Married)			
Not married	**0.17**	**0.10–0.28**	**<0.001**
BMI (ref: Normal/ Underweight)			
Overweight	1.71	0.92–3.17	0.096
Obese	**2.61**	**1.46–4.67**	**0.002**

Discussion

- In this study evaluating infertility in a nationally representative survey data, infertility prevalence was 4.7%
- Obesity (BMI ≥30) was significantly associated with higher odds of infertility, consistent with known links to ovulatory dysfunction
- Marital status showed a strong association, specifically unmarried women had lower reported infertility, likely reflecting differences in pregnancy intention and attempts at conception
- The association between obesity and infertility reinforces the role of modifiable metabolic factors in reproductive health. In addition, the strong effect of marital status suggests that infertility measures in population data may be influenced by social context, particularly intention to conceive, rather than biological fertility alone
- The inverse association with age contrasts with established fertility trends and may reflect sampling differences, prior fertility history, or unmeasured social factors (e.g., relationship stability, reproductive goals)
- This study highlights the need to incorporate pregnancy intention and social context when interpreting infertility data and supports targeted interventions addressing obesity as a modifiable risk factor

Limitations

- Self-reported infertility and health information may be subject to recall and reporting bias
- Residual confounding and limited sample size among women with infertility may have reduced the ability to detect some associations

Conclusions

Infertility remains a significant public health concern among U.S. women. In this study, obesity and marital status were key factors associated with infertility, highlighting the influence of both biologic and social context. These findings underscore obesity as a modifiable risk factor and emphasize the importance of considering pregnancy intention and reproductive history when interpreting infertility risk. Future research should further integrate social and behavioral factors to better inform targeted screening and interventions.

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