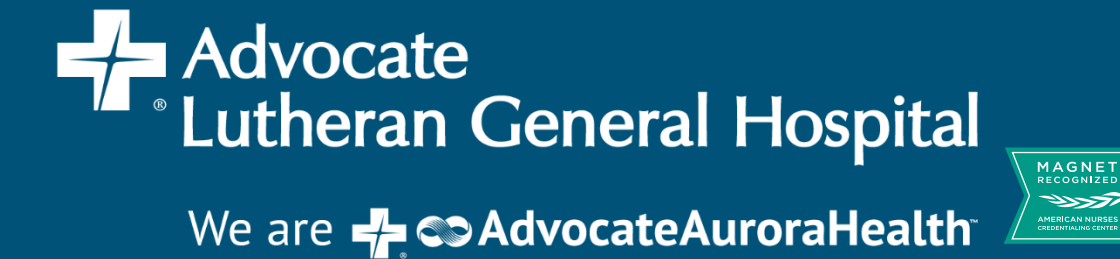




# Fertility Knowledge and Views on Egg Freezing and Family Planning among Surgical Specialty Trainees

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## Introduction:

There are limited studies focusing on resident and fellow attitudes on family planning and egg freezing. Previously, research has focused specifically on obstetrics and gynecology residents, but included a small sample size (1). To our knowledge, there have been no studies including residents and fellows from a wide range of surgical specialties. These programs are often longer and more time consuming than other fields. It is important to understand how this training affects family planning decisions. In addition, oocyte preservation has become a more viable option for those delaying starting a family. Therefore, we wanted to understand how these trainees viewed egg freezing. Finally, previous research has shown that obstetrics and gynecology residents overestimate fertility and in vitro fertilization (IVF) success (2) but no studies have compared the knowledge of different surgical specialties on these topics.

Describe fertility knowledge and viewpoints on family planning among United States (U.S.) residents and fellows.

## Objective

Describe fertility knowledge and viewpoints on family planning among United States (U.S.) residents and fellows.

## Methods:

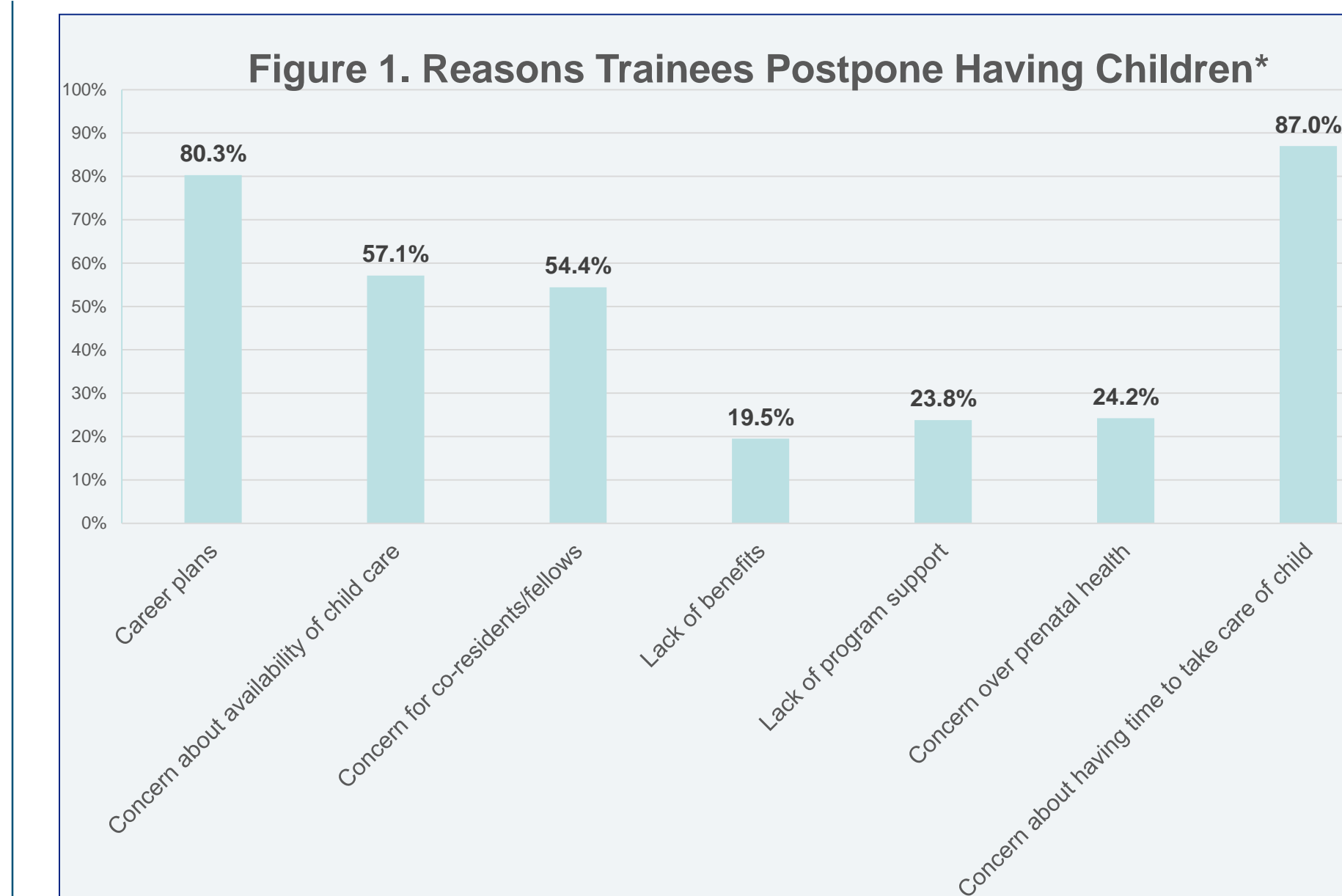
- The Advocate Aurora Health Institutional Review Board approved this study
- 32-question Qualtrics survey was emailed to trainees across U.S. training programs, including residencies/fellowships in the following fields:
  - Obstetrics/Gynecology (OBGYN)
  - Ophthalmology
  - Otolaryngology
  - Neurosurgery,
  - Plastic surgery
  - General surgery
  - Orthopedic surgery
- Pearson Chi-square tests were used to address accuracy of fertility knowledge by training specialty groups (OBGYN vs. others), gender (female vs. male), and program type (community vs. academic)
- Family plans and viewpoints are also described
- All analyses were performed using SAS, version 9.4

	Counts (%)
<b>Age</b>	
<26	4 (0.9%)
26-30	206 (47.9%)
31-34	150 (34.9%)
35 and over	70 (16.3%)
<b>Sex</b>	
Male	112 (26.2%)
Female	312 (73.1%)
Non-binary	2 (0.5%)
<b>Race</b>	
African American	19 (4.4%)
Asian/Pacific Islander	52 (12.1%)
Caucasian	296 (69.0%)
Hispanic/Latino	30 (7.0%)
Multiracial	20 (4.7%)
Prefer not to say	12 (2.8%)
<b>Sexuality</b>	
Bisexual	12 (2.8%)
Heterosexual	407 (94.9%)
Homosexual	8 (1.9%)
Other	2 (0.5%)
<b>Relationship</b>	
Divorced/Widowed	4 (0.9%)
In relationship	48 (11.2%)
Living with partner	48 (11.2%)
Married	254 (59.2%)
Single	75 (17.5%)

	Counts (%)
<b>Resident</b>	
General Surgery	45 (14.5%)
Neurosurgery	15 (4.9%)
OBGYN	153 (49.5%)
Ophthalmology	12 (3.9%)
Orthopedic Surgery	35 (11.3%)
Otolaryngology	16 (5.2%)
Plastic Surgery	9 (2.9%)
Thoracic Surgery	4 (1.3%)
Urology	20 (6.5%)
<b>Fellow</b>	
Colon and Rectal Surgery	2 (2.2%)
Complex General Surgery Oncology	5 (5.4%)
Gynecologic Oncology	8 (8.7%)
Maternal Fetal Medicine	14 (15.2%)
Minimally Invasive Surgery-Gynecology	4 (4.3%)
Ophthalmic Plastic/Reconstructive	1 (1.1%)
Orthopedic Surgery	4 (4.3%)
Other	10 (10.9%)
Pediatric Otolaryngology	1 (1.1%)
Pediatric Surgery	3 (3.3%)
Pelvic Medicine/Reconstructive	10 (10.9%)
Plastic Surgery	3 (3.3%)
Reproductive Endocrinology & Infertility	18 (19.6%)
Thoracic Surgery	6 (6.5%)
Vascular Surgery	3 (3.3%)

	At what age does a woman's fertility start to decrease?	At what age is there a significant decrease in a woman's fertility?	What is the average success rate of one IVF cycle?
<b>Trainees: Other vs. OBGYN</b>	23.76% vs. 11.11%	66.30% vs. 64.65%	49.17% vs. 46.73%
<b>Odds Ratio (95%CI)^</b>	2.49 (1.42, 4.36)*	1.08 (0.70, 1.64)	1.10 (0.74, 1.65)
<b>Gender: Female vs. Male</b>	16.07% vs. 20.00%	66.07% vs. 63.16%	48.75% vs. 46.32%
<b>Odds Ratio (95%CI)^</b>	0.77 (0.42, 1.39)	1.14 (0.70, 1.84)	1.10 (0.69, 1.76)
<b>Program Type: Community vs. Academic</b>	12.99% vs. 17.30%	58.44% vs. 68.17%	44.16% vs. 48.62%
<b>Odds Ratio (95%CI)^</b>	0.71 (0.34, 1.48)	0.66 (0.39, 1.10)	0.84 (0.50, 1.39)

<sup>^</sup>Odds ratios represent the odds of the first group responding accurately to the question relative to the second group  
<sup>\*</sup>Represents statistical significance at p<0.05



\*Can represent more than one concern per respondent.

## Results:

A total of 447 surveys were collected from 10/2019-1/2020 from 309 residents, 94 fellows, and 44 with unknown status. Participants mostly identified as female (73%), ages 26-30 (48%), Caucasian (69%), married (59%) and heterosexual (95%) with no children (72%). Descriptively, more females were single (19% vs. 13% of males) and less were married (55% vs. 74% of males). Relative to males, females had 2.89 times increased odds of having zero children (p<0.0001) and 1.33 times increased odds of reporting postponed plans for children (p=0.2438). Respondents cited a variety of reasons for postponing having children (Fig 1). Among female respondents, 48% would consider freezing oocytes, but less than 4% of respondents have frozen oocytes. Three questions were used to evaluate fertility knowledge (Table 3). For question 1, non-OBGYN trainees had 2.49 times greater odds of answering correctly relative to OBGYN trainees (p=0.0011) and females had 0.77 times lesser odds of answering correctly relative to males (p=0.3791). In general, trainees in academic programs had a higher percentage of correct responses than those in community programs, but this was not statistically significant.

## Conclusions:

- OBGYN trainees are not necessarily more well-versed in basic female fertility knowledge relative to other specialties
- Female trainees are less likely to have children or be married and more likely to report plans to postpone children
- Fertility focused educational interventions for OBCYN trainees are necessary

## References:

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- Yu L, Peterson B, Inhorn MC, Boehm JK, Patrizio P. Knowledge, attitudes, and intentions toward fertility awareness and oocyte cryopreservation among obstetrics and gynecology resident physicians. *Hum Reprod* 2016.