

Factors associated with a patient's decision to discontinue fertility treatment before achieving pregnancy

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INTRODUCTION

- Approximately 9–15% of couples within childbearing age may be affected by infertility.¹
- While fertility treatment results in live birth for up to 72% of couples, many patients choose to discontinue treatment prior to achieving pregnancy.¹
- The reasons for discontinuation of treatment at any stage of the patient fertility treatment journey are not well understood.
 - Medications and procedures for fertility treatment are considerable out-of-pocket expenses for patients who don't have insurance coverage. It is often assumed that patient discontinuation is largely due to financial reasons²; however, this may not present the full picture of why patients consider treatment discontinuation prior to achieving pregnancy.
 - Other reasons for treatment discontinuation may include overall time/treatment cycles needed, physical and psychological burdens of treatment, psychological stress, and lack of success.²⁻⁵

OBJECTIVE

- To identify factors correlated with infertility patient likelihood of stopping, or of considering stopping, treatment before achieving pregnancy.

METHODS

Study design

- This was an online, cross-sectional survey designed to:
 - evaluate the number of patients who initiate and discontinue or consider discontinuing *in vitro* fertilization (IVF) treatment
 - understand the factors affecting motivations for treatment initiation, discontinuation (or consideration), and reinitiation after discontinuation.
- The survey was distributed via email and administered in March–April 2019.
- In addition to questions on demographic data, the survey also included:
 - qualitative questions to assess factors that affect the participants decision-making process in discontinuing treatment prior to achieving pregnancy
 - a quantitative section on type and timing of fertility treatments received, and time to live birth.

Study participants

- Participants recruited were members of infertility patient support groups throughout the United States.
- Participants included adult (aged ≥ 18 years) female and male patients with a history of fertility treatment (ovulation induction with or without intrauterine insemination [OI/IUI], or IVF).

Analysis

- Associations between demographic factors and treatment discontinuation (or consideration) were evaluated by chi-square or logistic regression with independent variables ordinally coded, as appropriate. Demographic factors assessed included:
 - type and number of cycles of fertility treatment completed
 - level of education
 - annual household income
 - diagnosis of diminished ovarian reserve
 - age
 - insurance coverage
 - whether treatment was initiated with an obstetrician-gynecologist or at an IVF center.

RESULTS

Patient demographics

- There were 347 respondents in total (Table 1).
 - The majority of patients who responded to the survey had earned at least a bachelor's degree (81%).

| Characteristics | Respondents (n=347) |
|---|---------------------|
| Age, years | |
| 18–25 | 2.4 |
| 26–30 | 15.7 |
| 31–35 | 38.4 |
| 36–40 | 30.5 |
| 41–45 | 9.1 |
| 46–50 | 3.6 |
| >50 | 0.3 |
| Sex, female | 99.1 |
| Children in household | |
| With children | 47.7 |
| No children | 52.3 |
| Race/Ethnicity* | |
| White | 93.3 |
| Black or African American | 3.0 |
| American Indian or Alaskan Native | 0.6 |
| Asian | 3.3 |
| Native Hawaiian or other Pacific Islander | 0.3 |
| Hispanic/Latino | 3.3 |
| Highest educational achievement | |
| Some high school | 0.3 |
| High school | 3.0 |
| Some college | 14.6 |
| Bachelor's degree | 34.4 |
| Some graduate school | 6.7 |
| Master's degree | 32.2 |
| Doctoral degree | 8.8 |
| Household income | |
| <\$50,000 | 7.1 |
| \$50,000 to \$100,000 | 41.4 |
| >\$100,000 | 51.5 |

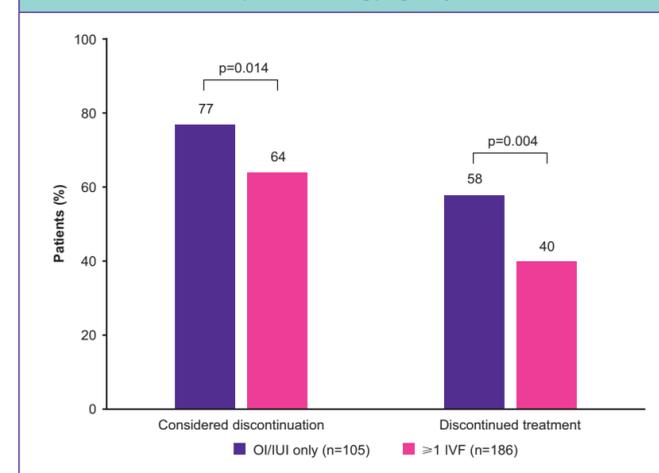
Data are reported as % unless specified otherwise.
*Patients were given the option to select more than one response.

- Data from the 291 (81%) completed surveys were included in the analyses to evaluate associations between various demographic factors and treatment discontinuation (or consideration).
- Among 291 completed surveys, 91 (31%) patients never considered discontinuing fertility treatment, 69 (24%) patients discontinued treatment without pregnancy, and 131 (45%) considered quitting but did not or resumed treatment after a break of <1 year.

Demographic factors associated with treatment discontinuation

- Compared with patients treated with OI/IUI only, patients who underwent ≥ 1 IVF cycle were less likely to consider quitting (64% vs 77%; $p=0.014$) or to quit treatment without achieving a pregnancy (40% vs 58%; $p=0.004$) (Figure 1), a relative reduction, by nearly one-third, in the probability of quitting without success.

Figure 1. Effect of treatment type on decision to discontinue or consider discontinuation of treatment prior to achieving pregnancy



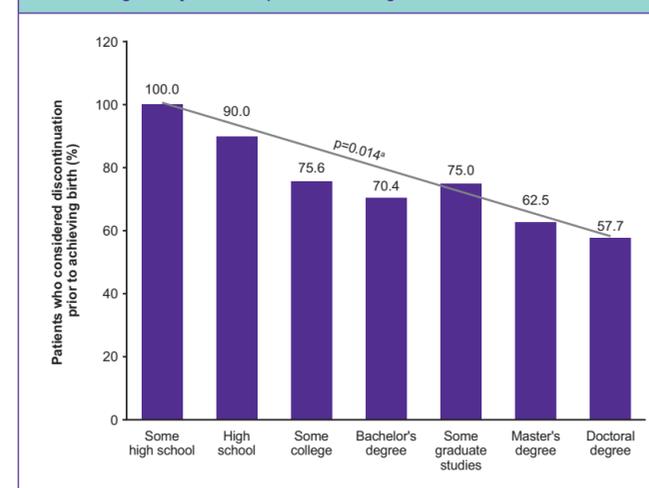
IVF, *in vitro* fertilization; OI/IUI, ovulation induction with or without intrauterine insemination.

- Higher education level was associated with a decline in the probability of considering treatment discontinuation ($p=0.014$) (Figure 2).
 - However, higher education level was unrelated to actual discontinuation ($p=0.97$).
- Patients with annual household incomes <\$50,000 were not significantly more likely to consider discontinuing treatment ($p=0.25$) or to actually do so ($p=0.32$) (Figure 3).

Other demographic characteristics

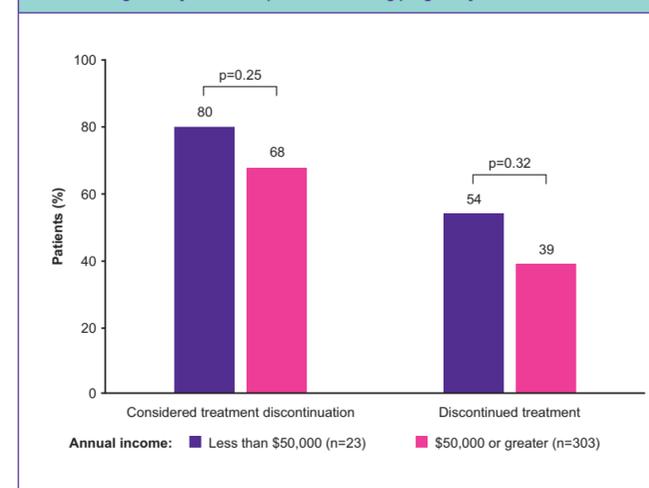
- A diagnosis of diminished ovarian reserve was not associated with considering quitting or doing so, despite a poorer prognosis than other patients of comparable age.

Figure 2. Effect of highest education level achieved on decision to discontinue/consider discontinuing fertility treatment prior to achieving birth



*Logistic regression of possible discontinuation according to educational level on an ordinal scale, from some high school through a doctoral degree.

Figure 3. Effect of annual household income on decision to discontinue or consider discontinuing fertility treatment prior to achieving pregnancy



- There were also no trends associated with age, extent of insurance coverage (for IVF, for OI/IUI only, or no coverage), starting treatment with an obstetrician-gynecologist or at an IVF center, or number of OI/IUI or IVF cycles completed.

Reasons for treatment discontinuation/consideration of treatment discontinuation prior to achieving pregnancy

- Most patients who discontinued treatment (76%) did so for financial (62%) or psychological (58%) reasons, including treatment fatigue.
- Forty-six percent of respondents indicated both psychological and financial reasons for discontinuation of treatment.

LIMITATIONS

- The results are based on patient-reported data obtained from an online survey. Additional analyses, potentially through observational studies, would be useful to compare against these patient-reported data.

CONCLUSIONS

- Patients treated with IVF were nearly one-third less likely to discontinue treatment before achieving pregnancy than patients who underwent OI/IUI only.
- The majority of discontinuations prior to achieving pregnancy were due to financial and/or psychological reasons.

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DISCLOSURES

BC is an employee of RESOLVE: The National Infertility Association, McLean, VA, USA. BH, KAM, and ABC are employees of EMD Serono, Inc.,* Rockland, MA, USA. GLM is an employee of Shady Grove Fertility Center, Annapolis, MD, USA. KSR is an employee of Fertility Science Consulting, Silver Spring, MD, USA.

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