# Initiation and outcomes of women pursuing planned fertility preservation

David Boedeker, D.O., M.H.A., a Marja Brolinson, M.D., Alexandra C. Campedelli, B.A., Rona Yu, B.S., Alexandra C. Campedelli, B.A., B.S., Campedelli, B.A., B.S., Campedelli, B.A., B.S., Campedelli, B.A., B.S., Campedelli, B.A., Sorana Raiciulescu, M.Sc., d Kate Devine, M.D., Micah Hill, D.O., Alan DeCherney, M.D., b and Trimble Spitzer, M.D.c

<sup>a</sup> Department of Gynecologic Surgery and Obstetrics, Walter Reed National Military Medical Center, Bethesda, Maryland; <sup>b</sup> Eunice Kennedy Shriver National Institute of Child Health and Human Development, Reproductive Endocrinology and Infertility Fellowship Program, National Institutes of Health, Bethesda, Maryland; <sup>c</sup> Department of Gynecologic Surgery and Obstetrics, Uniformed Services University of Health Sciences, Bethesda, Maryland; <sup>d</sup> Department of Preventive Medicine and Biostatistics, Uniformed Services University of Health Sciences, Bethesda, Maryland; and e Shady Grove Fertility Center, Rockville, Maryland

Objective: To study cycle outcomes of women who choose to pursue oocyte cryopreservation, using published age-specific oocyte recommendations.

**Design:** Retrospective cohort.

Setting: Clinic.

Patient(s): A total of 5,915 patients seeking planned oocyte cryopreservation, 3,504 ultimately underwent ovarian stimulation with oocyte retrieval and cryopreservation, 425 of this cohort subsequently thawed with intent to use embryo transfer.

**Exposure:** Planned oocyte cryopreservation.

Main Outcome Measure(s): Planned oocyte cryopreservation consultation, fertility preservation cycle(s) and ovarian stimulation

**Result(s):** A total of 5,915 women were seen in the initial consultation for planned fertility preservation (2012–2022). Ethnicity and the highest level of education were significant in predicting who would move forward with oocyte stimulation for fertility preservation. Women who reported working within the law and public policy and in the fields of health and medicine were statistically more likely to proceed with a cycle than those who listed other occupations. Of 3,504 women in the study cohort who underwent ovarian stimulation and egg retrieval, 1,331 (38.0%) achieved the age-based recommended number of oocytes to freeze. Only 57 (4.3%) of these women who met their age-based oocyte goal did so after their initial cryopreservation cycle. There was a significant association between ethnicity and number of cryopreservation cycles, specifically showing that Black or African American women were less likely to complete two or more cycles. Patients whose education background included graduate or professional degrees were more likely to have completed more than one cycle. Conclusion(s): Self-identified ethnicity was significantly associated with the odds of moving forward with oocyte stimulation for fertility preservation and egg retrieval after initial consultation with ethnic minorities significantly less likely to continue treatment. Of those who undergo egg freezing, most women pursue more than one stimulation and cryopreservation cycle, yet the majority never meet their recommended number to freeze. (Fertil Steril® 2025;123:148-55. ©2024 by American Society for Reproductive Medicine.) El resumen está disponible en Español al final del artículo.

**Key Words:** Fertility preservation, oocyte cryopreservation, egg freezing

Received February 6, 2024; revised August 1, 2024; accepted August 2, 2024; published online August 8. 2024.

Supported by Shady Grove Fertility Center, Rockville, MD, USA, a private practice, the sponsor-investigator.

This work was prepared in part by a military employee of the US Government as part of official duties of T.S., D.B., A.C.C., R.Y., and M.H. and therefore is in the public domain and does not possess copyright protection. The views expressed in this article are those of the authors and do not necessarily reflect the official policy or position of the Uniformed Services University of the Health Sciences, Department of the Navy, Department of the Air Force, Department of the Army, Department of Defense, or the United States Government.

Correspondence: Trimble Spitzer, M.D., Department of Gynecologic Surgery and Obstetrics, Uniformed Services University of Health Sciences, 4301 Jones Bridge Rd, B-2024, Bethesda, Maryland 20814 (E-mail: trimble.spitzer@usuhs.edu).

Fertil Steril® Vol. 123, No. 1, January 2025 0015-0282/\$36.00 Copyright ©2024 Published by Elsevier Inc. on behalf of the American Society for Reproductive

https://doi.org/10.1016/j.fertnstert.2024.08.312

he rising proportion of mothers >30 years of age is thought to be multifactorial, associated with women marrying later in life and a more educated female workforce (1-5), and comes at the cost of age-associated fertility decline (6). Since the American Society for Reproductive Medicine lifted oocyte cryopreservation's experimental title in 2013, there has been an 880% increase in cryopreservation cycles from 2010 to 2016 (7-9). According to a recent

cross-sectional study, approximately 25% of reproductiveaged women have considered fertility preservation services in the years since this guideline was published (10).

There are several models available to aid in patient counseling regarding the number of mature oocytes retrieved and cryopreserved to maximize the chance of achieving a live birth (11, 12). A seminal article by Doyle et al. (11) published in 2016, recommends 15-20 mature oocytes (MII) for women under the age of 38 and 25-30 MIIs for women 38-40 years old to achieve a 70%-80% and 65%-75% chance of achieving a live birth, respectively. The purpose of these models is to provide evidence-based counseling and oocyte recommendations for patients undergoing fertility preservation. Traditionally, cycle outcomes are reported only after a woman has returned to use her frozen egg(s) with an embryo transfer. Until this time, very little is described in the literature on the achievability of these cryopreservation goals and the socioeconomic factors that may influence how many cycles a patient ultimately opts to pursue.

The investigators hypothesize that women with socioeconomic privilege will seek elective oocyte cryopreservation in greater proportion than other patient populations. This study aims to characterize patients who present in an initial consultation for planned fertility preservation at a large single institution and assess the cycle outcomes of women who choose to pursue oocyte cryopreservation, using published age-specific oocyte recommendations. The study investigates the association between age, race and ethnicity, education, and occupation as they relate to the initiation and outcomes of planned oocyte cryopreservation cycles.

#### **MATERIALS AND METHODS**

This was a retrospective cohort study of all patients presenting for autologous oocyte cryopreservation for planned fertility preservation at a single institution from 2012 to 2022. The study was performed at Shady Grove Fertility Reproductive Science Center in Rockville, Maryland, with Institutional Review Board approval.

All demographic factors, including age, race and ethnicity, occupation, and education level were self-reported on intake forms at the time of initial consultation. After data collection, age was categorized into four groups: <35, 35-37, 38-40, and >40 years. Race/ethnicity and occupational groupings were listed in multiple-choice options on the intake form in accordance with the 2015 National Institutes of Health Diversity reporting recommendation and National Career Clusters Framework, respectively (13, 14). Race and ethnicity options included American Native, Asian, Black or African American, Hispanic or Latino, White, and other. Educational level was assessed as a free-response question. Missing variables were categorized as "unknown" and included in the statistical analysis. Patients who underwent medically indicated oocyte cryopreservation and those freezing for oncofertility reasons were excluded.

Descriptive statistics were provided for all variables, using means and standard deviations or frequency and percentages,

where appropriate. Bivariate associations between patient demographics (race/ethnicity, education, and occupation) and outcomes of cryopreservation, number of cycles, and decision to thaw were assessed with either independent two-sample t-tests or  $\chi^2$  tests of association, depending on the nature of the data. Significant factors (P<.05) associated with cryopreservation and the decision to thaw were used in logistic regression modeling, resulting in models that included age at first appointment, occupation, race/ethnicity, education, and region of patient's residence. Results from those models are reported using odds ratios (ORs) and 95% confidence interval. All tests are two-sided.

#### **RESULTS**

# Initial consultation and follow-up

A total of 5,915 women were seen in the initial consultation for planned fertility preservation from 2012 to 2022. Of these women, 3,504 (59.2%) subsequently underwent at least one cryopreservation cycle with ovarian stimulation and retrieval, resulting in a total of 6,568 cumulative cycles included in the study (Supplemental Table 1, available online). Patients who underwent subsequent oocyte cryopreservation (35.7  $\pm$  3.1 years) were older than those who did not (36.1  $\pm$  3.3 years) (OR, 0.97; confidence interval [CI], 0.95–0.98; P<.001). Nearly 79% (n = 2,754) of patients were noted to be unpartnered at the time of planned oocyte cryopreservation. This is consistent with published data that 75.6% of women undergoing elective fertility preservation stated they were "single" (15).

Most patients seen for initial consultation self-identified as White/Caucasian (3,114; 52.7%). Other reported ethnicities were Black or African American (1,124; 19.0%), Asian (732; 12.4%), and Hispanic or Latino (224; 3.79%); 721 women (12.2%) selected "Other," "American Native," or declined to answer. Race/ethnicity was significantly associated with moving forward with oocyte stimulation for fertility preservation and egg retrieval after the initial consultation. Compared with their White counterparts, women who were Black/African American (OR, 0.45; 95% CI, 0.39–0.52; P<.001) or Hispanic/Latino (OR, 0.52; 95% CI, 0.4–0.69; P<..001) were less likely to continue with oocyte cryopreservation after their initial consultation.

Education status was available for 3,008 patients (50.9%), with the remainder of patients electing to omit this section on their intake form. Higher levels of education were significantly associated with an increased likelihood of proceeding with at least one oocyte cryopreservation cycle (P<.001). Occupation was identified for 5,395 (91.2%) patients (Table 1). Exceptions included the areas of education, community and social services, and installation, repair, and maintenance.

#### **Cycle outcomes**

Of 3,504 (59.2%) women in the study cohort who underwent ovarian stimulation and egg retrieval, 1,331 (38.0%) achieved the age-based recommended number of oocytes to freeze. The number of oocytes cryopreserved within each age group tended to decline with age, as clinically expected. Women

# TABLE 1

Odds ratio of individuals presenting for initial planned oocyte cryopreservation counseling appointment choosing to proceed with oocyte cryopreservation.

Demographics	OR	(95%	% CI)	P value		
Age	0.96	0.94	0.97	<.001		
Race/ethnicity	4					
White Asian	1 0.92	0.77	1.09	 .311		
Black or African American	0.92	0.77	0.52	<.001		
Hispanic or Latino	0.52	0.4	0.69	< .001		
Unknown, other	0.26	0.22	0.31	< .001		
Highest education						
High school or associate	1	_	_	_		
degree Bachelor degree	0.35	0.12	1.03	.56		
Law school or doctorate	0.33	0.12	1.03	.176		
Master degree	0.42	0.14	1.24	.118		
Unknown	0.18	0.06	0.53	.002		
None	1	_	_	_		
Occupation						
Business management	3.44	2.79	4.22	< .001		
and administration Architecture and	4.34	2.84	6.63	< .001		
engineering	4.54	2.04	0.03	< .001		
Arts, culture, and	3.17	2.09	4.81	< .001		
entertainment						
Communication	2.38	1.77	3.21	< .001		
Community and social	2.34	1.73	3.16	< .001		
services	2.1	1 55	2.04	. 001		
Education Government	2.1 4.49	1.55 3.36	2.84 5.99	<.001 <.001		
Health and medicine	4.49	3.25	5.21	< .001		
Installation, repair, and	0.59	0.21	1.61	.3		
maintenance						
Law and public policy	4.64	3.64	5.91	< .001		
Student	3.72	2.27	6.08	< .001		
Science and technology	2.76	2.09	3.63	< .001		
Region in United States Northeast	1					
West	0.62	0.27	1.42	.258		
Midwest	0.29	0.11	0.77	.013		
South/D.C.	0.08	0.05	0.12	<.001		
Note: CI = confidence interval; D.C. = District of Columbia; OR = odds ratio.						
Boedeker. Initiation and outcomes of egg	Boedeker. Initiation and outcomes of egg freezing. Fertil Steril 2025.					

<35 years cryopreserved a median number of 18 oocytes (interquartile range [IQR], 11–25); women over 40 years cryopreserved ten oocytes (IQR, 5–16) in total (Table 2). Younger

women were more likely to achieve the recommended number of eggs compared with women in older age groups (Fig. 1). Over time, there was little variation in mean and median first cycle oocyte yield (Supplemental Table 2).

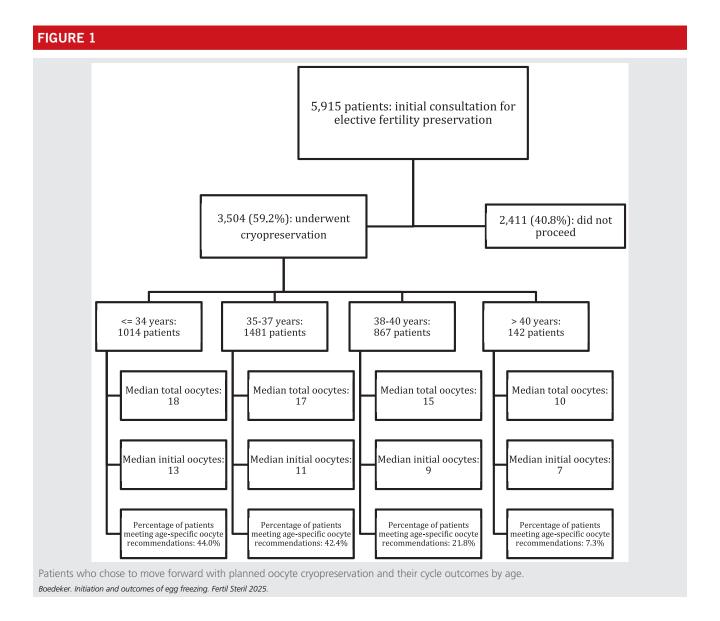
Only 57 women met their age-based oocyte goal after their initial cryopreservation cycle. Women <35 years cryopreserved a median number of 13 oocytes (IQR, 8–19) compared with seven oocytes (IQR, 3–11) in women over 40 years during their first cycle (Table 2). Twenty-four of the 57 women were <35 years of age and an additional 24 women were aged 35–37 years. No women aged >40 years met their recommended goal of 30 stored oocytes to achieve a maximum 50% chance of a single live birth (11) with only one cryopreservation cycle.

Over half of the women in our study cohort proceeded with more than one stimulation and cryopreservation cycle (57.3%, n = 2,009), regardless of age. Of these women, 1,284 underwent two planned cryopreservation cycles, 489 women underwent three cycles, and 171 women underwent four cycles. Sixty-five women underwent five or more cryopreservation cycles in our study. The average time from retrieval and cryopreservation to the next cycle start was 4 months. Women aged <35 years completed a median number of one cycle (range 1-6) with 497 women (48.9%) pursuing more than one cryopreservation cycle. Women aged 35-37 years completed a median number of two cycles (range, 1-9); 881 women (59.5%) underwent more than one cycle. Women 38-40 years old completed a median of two cycles (range 1-9) with 64.3% pursuing two or more cryopreservation cycles. Only 142 women >40 years of age completed oocyte cryopreservation; 52.1% of these women underwent more than one cycle (median two cycles).

There was a significant association between racial and ethnic identity and number of cryopreservation cycles; women who were not Asian or White were less likely to complete two or more cryopreservation cycles (P<.001; Table 3). Statistical association was found between educational background and number of completed cycles, indicating that women whose education background included graduate or professional degrees were more likely to have completed more than one cycle (P=.007). There was no statistical significance in occupation and number of cycles performed.

# TABLE 2

Total number of cryopreserved oocytes by age groups.								
Age (y)	Oocytes retrieved	Mean (n)	SD	Median	Range	Percentile 75	Percentile 25	Percentage achieving recommended oocytes
≤34 Total oocytes Initial	Total oocytes	18.8	10.4	18.0	60.0	25.0	11.0	44.0
cycle	Initial cycle	14.1	9.1	13.0	58	19	8	_
35–37 Total	Total oocytes	17.8	10.0	17.0	58.0	24.0	10.0	42.4
oocytes Initial cycle	Initial cycle	11.9	7.9	11.0	45	16	6	_
38–40 Total	Total oocytes	16.3	10.9	15.0	55.0	23.0	8.0	21.8
oocytes Initial cycle	Initial cycle	10.1	7.3	9.0	52	14	5	_
≥40 Total oocytes Initial	Total oocytes	11.8	9.6	10.0	48.0	16.0	5.0	7.3
cycle	Initial cycle	7.7	6.3	7.0	32	11	3	_
Boedeker. Initiation and outcomes of egg freezing. Fertil Steril 2025.								



## Utilization of cryopreserved oocytes

Of those who underwent oocyte cryopreservation cycle(s) from 2012 to 2022, only 12% (425 patients) returned to thaw oocytes during the same timeframe. Ethnicity was significantly associated with the decision to thaw previously cryopreserved oocytes (P < .001). White patients comprised the majority, 281 (66%), of women who returned to use their oocytes. Compared with this group, Black or African American (OR, 0.67; 95% CI, 0.48-0.92; P=.02), and Unknown/ Other/American Native (OR, 0.11; 95% CI, 0.03-0.45; P<.01), were significantly less likely to thaw their cryopreserved eggs. 293 (69%) of women who thawed their eggs with plans for fertilization and frozen embryo transfer used their partner's sperm and 132 women (31%) used sperm from a donor. Additionally, race was significantly associated with sperm source; Black or African American women used donor sperm significantly more often than partner sperm (P=.014).

## **DISCUSSION**

Approximately 60% of women seeking consultation for planned fertility preservation followed through with oocyte cryopreservation in our study. Race and ethnicity, education level, and occupation were associated with odds of moving forward with at least one cycle. Of those who underwent oocyte stimulation, 38% achieved their age-based goals of number of oocytes frozen to maximize their chances of achieving a future live birth. Women <35 years were statistically more likely to achieve the recommended number of eggs compared with women in older age groups. Most women require multiple ovarian stimulation cycles to meet their oocyte goals. Only 57 of 1,331 women (4.3%) met their number goals within one cycle. There was a significant association between racial ethnicity and educational background and the number of cycles pursued. The findings we describe in this article do not present new recommendations with respect to how many oocytes a patient should aim to freeze to achieve

TABLE 3

Race/ethnicity Asian 10.9 14.7 17.8 13.7 Black or African American 17.6 15.3 12.0 15.6 Hispanic or Latino 3.9 3.0 2.8 3.3 Unknown, other 8.6 6.2 6.2 7.2 White 59.1 60.7 61.2 60.1 Highest education High school or associates 0.7 0.6 0.3 0.6 Bachelors 14.8 11.1 10.5 12.6 Law school or doctorate 23.1 26.4 29.0 25.5 Masters 20.2 20.6 21.8 20.7 Unknown 41.2 41.2 38.5 40.6 Occupation Business management 34.1 35.6 383.1 35.5  Business management 34.1 35.6 383.1 35.5  Architecture and 2.5 2.5 1.5 2.3 entertainment Communication 3.4 4.4 5.8 4.3 Community and social 4.2 4.0 4.1 4.1 Services Education 3.9 4.1 2.6 3.7 Government 6.4 7.5 7.0 6.9 Health and medicine 15.8 15.7 12.1 15.0 Installation, repair, and 0.1 0.0 0.4 0.1 maintenance Law and public policy 14.6 12.4 15.0 13.9 Student 1.5 1.6 1.2 1.5 Science and technology 6.2 5.4 4.4 4.4 1 8.8	Demographics	1 cycle completed (%)	2 cycles completed (%)	3+ cycles completed (%)	Percent of total cycles in category (%)
Black or African American         17.6         15.3         12.0         15.6           Hispanic or Latino         3.9         3.0         2.8         3.3           Unknown, other         8.6         6.2         6.2         7.2           White         59.1         60.7         61.2         60.1           High school or associates         0.7         0.6         0.3         0.6           Bachelors         14.8         11.1         10.5         12.6           Law school or doctorate         23.1         26.4         29.0         25.5           Masters         20.2         20.6         21.8         20.7           Unknown         41.2         41.2         38.5         40.6           Occupation         34.1         35.6         383.1         35.5           Business management and administration         34.1         35.6         383.1         35.5           Ark, culture, and engineering         2.5         2.5         1.5         2.3           Ark, culture, and engineering         4.4         4.4         5.8         4.3           Community and social services         4.2         4.0         4.1         4.1           Services         5	Race/ethnicity				
Hispanic or Latino 3.9 3.0 2.8 3.3 Unknown, other 8.6 6.2 6.2 7.2 White 59.1 60.7 61.2 60.1 Highest education High school or associates 0.7 0.6 0.3 0.6 Bachelors 14.8 11.1 10.5 12.6 Law school or doctorate 23.1 26.4 29.0 25.5 Masters 20.2 20.6 21.8 20.7 Unknown 41.2 41.2 38.5 40.6 Occupation Business management 34.1 35.6 383.1 35.5 and administration Architecture and engineering Arts, culture, and 9.2 2.5 2.5 1.5 2.3 engineering Arts, culture, and social 4.2 4.0 4.1 2.0 entertainment Communication 3.4 4.4 5.8 4.3 Community and social 4.2 4.0 4.1 4.1 4.1 services Education 3.9 4.1 2.6 3.7 Government 6.4 7.5 7.0 6.9 Health and medicine 15.8 15.7 12.1 15.0 Installation, repair, and 0.1 0.0 0.4 0.1 maintenance Law and public policy 14.6 12.4 15.0 13.9 Student 5cience and technology 6.2 5.6 6.3 6.0	Asian	10.9	14.7	17.8	13.7
Unknown, other         8.6         6.2         6.2         7.2           White         59.1         60.7         61.2         60.1           High set education         60.1         60.7         61.2         60.1           High school or associates         0.7         0.6         0.3         0.6           Bachelors         14.8         11.1         10.5         12.6           Law school or doctorate         23.1         26.4         29.0         25.5           Masters         20.2         20.6         21.8         20.7           Unknown         41.2         41.2         38.5         40.6           Occupation         34.1         35.6         383.1         35.5           Business management and administration         34.1         35.6         383.1         35.5           Architecture and engineering         2.5         2.5         1.5         2.3           engineering	Black or African American	17.6	15.3	12.0	15.6
White     59.1     60.7     61.2     60.1       High school or associates     0.7     0.6     0.3     0.6       Bachelors     14.8     11.1     10.5     12.6       Law school or doctorate     23.1     26.4     29.0     25.5       Masters     20.2     20.6     21.8     20.7       Unknown     41.2     41.2     38.5     40.6       Occupation     34.1     35.6     383.1     35.5       Business management and administration     34.1     35.6     383.1     35.5       Architecture and engineering     2.5     2.5     1.5     2.3       engineering     2.2     1.7     2.0       Arts, culture, and entertainment     1.9     2.2     1.7     2.0       Communication     3.4     4.4     5.8     4.3       Community and social services     4.2     4.0     4.1     4.1       Services     5.6     3.7     6.9       Education     3.9     4.1     2.6     3.7       Government     6.4     7.5     7.0     6.9       Health and medicine     15.8     15.7     12.1     15.0       Installation, repair, and maintenance     1.0     0     0 <td< td=""><td>Hispanic or Latino</td><td>3.9</td><td>3.0</td><td>2.8</td><td>3.3</td></td<>	Hispanic or Latino	3.9	3.0	2.8	3.3
White     59.1     60.7     61.2     60.1       Highest education     High school or associates     0.7     0.6     0.3     0.6       Bachelors     14.8     11.1     10.5     12.6       Law school or doctorate     23.1     26.4     29.0     25.5       Masters     20.2     20.6     21.8     20.7       Unknown     41.2     41.2     38.5     40.6       Occupation     34.1     35.6     383.1     35.5       Business management and administration     34.1     35.6     383.1     35.5       Architecture and engineering     2.5     2.5     1.5     2.3       engineering     2.2     1.7     2.0       Arts, culture, and entertainment     2.2     1.7     2.0       Communication     3.4     4.4     5.8     4.3       Community and social services     4.2     4.0     4.1     4.1       Services     5.6     3.7     6.9       Education     3.9     4.1     2.6     3.7       Government     6.4     7.5     7.0     6.9       Health and medicine     15.8     15.7     12.1     15.0       Installation, repair, and maintenance     1.2     1.5 <t< td=""><td>Unknown, other</td><td>8.6</td><td>6.2</td><td>6.2</td><td>7.2</td></t<>	Unknown, other	8.6	6.2	6.2	7.2
High school or associates       0.7       0.6       0.3       0.6         Bachelors       14.8       11.1       10.5       12.6         Law school or doctorate       23.1       26.4       29.0       25.5         Masters       20.2       20.6       21.8       20.7         Unknown       41.2       41.2       38.5       40.6         Occupation       Business management       34.1       35.6       383.1       35.5         and administration       Architecture and       2.5       2.5       1.5       2.3         engineering       Ars, culture, and       1.9       2.2       1.7       2.0         Arts, culture, and entertainment       Communication       3.4       4.4       5.8       4.3         Community and social services       4.2       4.0       4.1       4.1         Services       Education       3.9       4.1       2.6       3.7         Government       6.4       7.5       7.0       6.9         Health and medicine       15.8       15.7       12.1       15.0         Installation, repair, and maintenance       0.1       0.0       0.4       0.1 </td <td></td> <td>59.1</td> <td>60.7</td> <td>61.2</td> <td>60.1</td>		59.1	60.7	61.2	60.1
Bachelors     14.8     11.1     10.5     12.6       Law school or doctorate     23.1     26.4     29.0     25.5       Masters     20.2     20.6     21.8     20.7       Unknown     41.2     41.2     38.5     40.6       Occupation     34.1     35.6     383.1     35.5       Business management and administration     34.1     35.6     383.1     35.5       Architecture and engineering     2.5     2.5     1.5     2.3       Arts, culture, and engineering     2.2     1.7     2.0       Arts, culture, and entertainment     2.0     4.4     5.8     4.3       Communication     3.4     4.4     5.8     4.3       Community and social services     4.2     4.0     4.1     4.1       Services     2.6     3.7     6.9       Education     3.9     4.1     2.6     3.7       Government     6.4     7.5     7.0     6.9       Health and medicine     15.8     15.7     12.1     15.0       Installation, repair, and maintenance     0.1     0.0     0.4     0.1       Law and public policy     14.6     12.4     15.0     13.9       Student     1.5     1.6	Highest education				
Bachelors     14.8     11.1     10.5     12.6       Law school or doctorate     23.1     26.4     29.0     25.5       Masters     20.2     20.6     21.8     20.7       Unknown     41.2     41.2     38.5     40.6       Occupation     34.1     35.6     383.1     35.5       Business management and administration     34.1     35.6     383.1     35.5       Architecture and engineering     2.5     2.5     1.5     2.3       Arts, culture, and engineering     2.2     1.7     2.0       Arts, culture, and entertainment     2.0     4.4     5.8     4.3       Communication     3.4     4.4     5.8     4.3       Community and social services     4.2     4.0     4.1     4.1       Services     2.6     3.7     6.9       Education     3.9     4.1     2.6     3.7       Government     6.4     7.5     7.0     6.9       Health and medicine     15.8     15.7     12.1     15.0       Installation, repair, and maintenance     0.1     0.0     0.4     0.1       Law and public policy     14.6     12.4     15.0     13.9       Student     1.5     1.6	High school or associates	0.7	0.6	0.3	0.6
Masters Unknown     20.2 Unknown     20.6 Unknown     21.8 38.5     20.7 40.6       Occupation     41.2 41.2 38.5     40.6       Business management and administration     34.1 35.6 383.1 35.5       Architecture and engineering     2.5 2.5 1.5 2.3       Arts, culture, and entertainment     1.9 2.2 1.7 2.0       Communication     3.4 4.4 5.8 4.3       Community and social services     4.2 4.0 4.1 4.1       Education     3.9 4.1 2.6 3.7       Government     6.4 7.5 7.0 6.9       Health and medicine     15.8 15.7 12.1 15.0       Installation, repair, and maintenance     0.1 0.0 0.4 0.1       Law and public policy     14.6 12.4 15.0 13.9       Student     1.5 1.6 1.2 1.5       Science and technology     6.2 5.6 5.6 6.3 6.0		14.8	11.1	10.5	12.6
Unknown     41.2     41.2     38.5     40.6       Occupation       Business management and administration     34.1     35.6     383.1     35.5       Architecture and engineering     2.5     2.5     1.5     2.3       Arts, culture, and entertainment     1.9     2.2     1.7     2.0       Communication     3.4     4.4     5.8     4.3       Community and social services     4.2     4.0     4.1     4.1       Education     3.9     4.1     2.6     3.7       Government     6.4     7.5     7.0     6.9       Health and medicine     15.8     15.7     12.1     15.0       Installation, repair, and maintenance     0.1     0.0     0.4     0.1       Law and public policy     14.6     12.4     15.0     13.9       Student     1.5     1.6     1.2     1.5       Science and technology     6.2     5.6     6.3     6.0	Law school or doctorate	23.1	26.4	29.0	25.5
Occupation         Business management and administration       34.1       35.6       383.1       35.5         Architecture and engineering       2.5       2.5       1.5       2.3         Arts, culture, and entertainment       1.9       2.2       1.7       2.0         Communication       3.4       4.4       5.8       4.3         Community and social services       4.2       4.0       4.1       4.1         Services       5       7.0       6.9         Education       3.9       4.1       2.6       3.7         Government       6.4       7.5       7.0       6.9         Health and medicine       15.8       15.7       12.1       15.0         Installation, repair, and maintenance       0.1       0.0       0.4       0.1         Law and public policy       14.6       12.4       15.0       13.9         Student       1.5       1.6       1.2       1.5         Science and technology       6.2       5.6       6.3       6.0	Masters	20.2	20.6	21.8	20.7
Business management and administration       34.1       35.6       383.1       35.5         Architecture and engineering       2.5       2.5       1.5       2.3         engineering       2.2       1.7       2.0         Arts, culture, and entertainment       2.2       1.7       2.0         Communication       3.4       4.4       5.8       4.3         Community and social services       4.2       4.0       4.1       4.1         services       5.8       4.3       4.1       2.6       3.7         Government       6.4       7.5       7.0       6.9         Health and medicine       15.8       15.7       12.1       15.0         Installation, repair, and maintenance       0.1       0.0       0.4       0.1         Law and public policy       14.6       12.4       15.0       13.9         Student       1.5       1.6       1.2       1.5         Science and technology       6.2       5.6       6.3       6.0	Unknown	41.2	41.2	38.5	40.6
Business management and administration       34.1       35.6       383.1       35.5         Architecture and engineering       2.5       2.5       1.5       2.3         engineering       2.2       1.7       2.0         Arts, culture, and entertainment       2.2       1.7       2.0         Communication       3.4       4.4       5.8       4.3         Community and social services       4.2       4.0       4.1       4.1         services       5.8       4.3       4.1       2.6       3.7         Government       6.4       7.5       7.0       6.9         Health and medicine       15.8       15.7       12.1       15.0         Installation, repair, and maintenance       0.1       0.0       0.4       0.1         Law and public policy       14.6       12.4       15.0       13.9         Student       1.5       1.6       1.2       1.5         Science and technology       6.2       5.6       6.3       6.0	Occupation				
and administration         Architecture and engineering       2.5       2.5       1.5       2.3         Arts, culture, and entertainment       1.9       2.2       1.7       2.0         Communication       3.4       4.4       5.8       4.3         Community and social services       4.2       4.0       4.1       4.1         Services       5.8       4.3       4.1       4.1       4.1         Services       6.4       7.5       7.0       6.9       6.9         Health and medicine       15.8       15.7       12.1       15.0       15.0       11.5       15.0       11.5       15.0       11.5       15.0       13.9       13.9       14.6       12.4       15.0       13.9       15.5       1.6       1.2       1.5       1.5       5.6       6.3       6.0		34.1	35.6	383.1	35.5
engineering         Arts, culture, and entertainment       1.9       2.2       1.7       2.0         Communication       3.4       4.4       5.8       4.3         Community and social services       4.2       4.0       4.1       4.1         Education       3.9       4.1       2.6       3.7         Government       6.4       7.5       7.0       6.9         Health and medicine       15.8       15.7       12.1       15.0         Installation, repair, and maintenance       0.1       0.0       0.4       0.1         Law and public policy       14.6       12.4       15.0       13.9         Student       1.5       1.6       1.2       1.5         Science and technology       6.2       5.6       6.3       6.0					
Arts, culture, and entertainment       1.9       2.2       1.7       2.0         Communication       3.4       4.4       5.8       4.3         Community and social services       4.2       4.0       4.1       4.1         Services       5.8       3.7       4.1       2.6       3.7         Government       6.4       7.5       7.0       6.9         Health and medicine       15.8       15.7       12.1       15.0         Installation, repair, and maintenance       0.1       0.0       0.4       0.1         Law and public policy       14.6       12.4       15.0       13.9         Student       1.5       1.6       1.2       1.5         Science and technology       6.2       5.6       6.3       6.0	Architecture and	2.5	2.5	1.5	2.3
Arts, culture, and entertainment       1.9       2.2       1.7       2.0         Communication       3.4       4.4       5.8       4.3         Community and social services       4.2       4.0       4.1       4.1         Services       5.8       3.7       4.1       2.6       3.7         Government       6.4       7.5       7.0       6.9         Health and medicine       15.8       15.7       12.1       15.0         Installation, repair, and maintenance       0.1       0.0       0.4       0.1         Law and public policy       14.6       12.4       15.0       13.9         Student       1.5       1.6       1.2       1.5         Science and technology       6.2       5.6       6.3       6.0	engineering				
entertainment         Communication         3.4         4.4         5.8         4.3           Community and social services         4.2         4.0         4.1         4.1           Services         5.8         4.1         4.1         4.1           Education         3.9         4.1         2.6         3.7           Government         6.4         7.5         7.0         6.9           Health and medicine         15.8         15.7         12.1         15.0           Installation, repair, and maintenance         0.1         0.0         0.4         0.1           Law and public policy         14.6         12.4         15.0         13.9           Student         1.5         1.6         1.2         1.5           Science and technology         6.2         5.6         6.3         6.0		1.9	2.2	1.7	2.0
Community and social services     4.2     4.0     4.1     4.1       Education     3.9     4.1     2.6     3.7       Government     6.4     7.5     7.0     6.9       Health and medicine     15.8     15.7     12.1     15.0       Installation, repair, and maintenance     0.1     0.0     0.4     0.1       Law and public policy     14.6     12.4     15.0     13.9       Student     1.5     1.6     1.2     1.5       Science and technology     6.2     5.6     6.3     6.0					
services         Services           Education         3.9         4.1         2.6         3.7           Government         6.4         7.5         7.0         6.9           Health and medicine         15.8         15.7         12.1         15.0           Installation, repair, and maintenance         0.1         0.0         0.4         0.1           Law and public policy         14.6         12.4         15.0         13.9           Student         1.5         1.6         1.2         1.5           Science and technology         6.2         5.6         6.3         6.0	Communication	3.4	4.4	5.8	4.3
services         Services           Education         3.9         4.1         2.6         3.7           Government         6.4         7.5         7.0         6.9           Health and medicine         15.8         15.7         12.1         15.0           Installation, repair, and maintenance         0.1         0.0         0.4         0.1           Law and public policy         14.6         12.4         15.0         13.9           Student         1.5         1.6         1.2         1.5           Science and technology         6.2         5.6         6.3         6.0	Community and social	4.2	4.0	4.1	4.1
Education       3.9       4.1       2.6       3.7         Government       6.4       7.5       7.0       6.9         Health and medicine       15.8       15.7       12.1       15.0         Installation, repair, and maintenance       0.1       0.0       0.4       0.1         Law and public policy       14.6       12.4       15.0       13.9         Student       1.5       1.6       1.2       1.5         Science and technology       6.2       5.6       6.3       6.0					
Government       6.4       7.5       7.0       6.9         Health and medicine       15.8       15.7       12.1       15.0         Installation, repair, and maintenance       0.1       0.0       0.4       0.1         Law and public policy       14.6       12.4       15.0       13.9         Student       1.5       1.6       1.2       1.5         Science and technology       6.2       5.6       6.3       6.0		3.9	4.1	2.6	3.7
Health and medicine     15.8     15.7     12.1     15.0       Installation, repair, and maintenance     0.1     0.0     0.4     0.1       Law and public policy     14.6     12.4     15.0     13.9       Student     1.5     1.6     1.2     1.5       Science and technology     6.2     5.6     6.3     6.0					
Installation, repair, and maintenance     0.1     0.0     0.4     0.1       Law and public policy     14.6     12.4     15.0     13.9       Student     1.5     1.6     1.2     1.5       Science and technology     6.2     5.6     6.3     6.0					
maintenance       Law and public policy     14.6     12.4     15.0     13.9       Student     1.5     1.6     1.2     1.5       Science and technology     6.2     5.6     6.3     6.0					
Law and public policy       14.6       12.4       15.0       13.9         Student       1.5       1.6       1.2       1.5         Science and technology       6.2       5.6       6.3       6.0					
Student     1.5     1.6     1.2     1.5       Science and technology     6.2     5.6     6.3     6.0		14.6	12.4	15.0	13.9
Science and technology 6.2 5.6 6.3 6.0					
	None	5.4	4.4	4.1	4.8

a live birth. Rather, we describe the demographics of patients who ultimately meet their age-specific oocyte recommendation, which may be helpful for physician counseling efforts and additional research to address barriers to care.

Our findings have notable counseling implications for reproductive endocrinologists. When counseling a patient on oocyte cryopreservation, these data highlight the importance of counseling patients on the statistical requirement of multiple cycles to achieve a future live birth. After appropriate counseling, the ultimate decision to proceed with additional cycles lies in the hands of the patient. At our institution, providers meet with patients to discuss cycle progression, review outcomes, and revisit individual patient goals after each cycle. There was no information available on why individual women chose to move forward with oocyte cryopreservation or the number of cycles they chose to pursue. Detailed information on patient/physician counseling after each oocyte cryopreservation cycle was outside of the scope of this initial study. In future studies, patient-specific questionnaires may be helpful to understand why women do not ultimately achieve the recommended number of cryopreserved oocytes.

This data also sheds light on barriers to care experienced by non-White patients when pursuing fertility care. Black/African American and Hispanic/Latino patients were less likely to continue with planned oocyte cryopreservation than their Caucasian peers in our 10-year historical cohort. Of those who did proceed with planned oocyte cryopreservation, they were less likely to undergo multiple cycles. After cryopreservation, Black/African American patients were also less likely to return to our clinic to thaw their oocytes. We therefore see a significant drop-off at each step of this process, which consistently affected Black/African American and Hispanic/Latino patients. Additionally, the demographics of the patients included in this study do not consistently mirror national averages. Specifically, it is estimated that 19.5% of the US population are Hispanic or Latino, but only 3.3% of our patients identified as this race/ethnicity. Alternatively, the percentage of Black and African American patients included in our study mirrored national data (16). There are well-documented barriers to care and poor reproductive outcomes experienced among non-White patients (17, 18). Our data suggest these barriers extend to those pursuing planned oocyte cryopreservation, given the lack of Hispanic/Latino representation and attrition rate among Black/African American patients seeking care at our facilities.

Twenty-one states plus the District of Columbia have passed fertility insurance coverage laws and 17 cover fertility preservation for iatrogenic (medically induced) infertility (19). Even so, most insurance companies currently consider non-medically indicated oocyte cryopreservation to be an elective procedure and do not cover associated expenses. Our study excluded that seeking medically indicated oocyte

cryopreservation; therefore it can be assumed that most costs were out-of-pocket expenses. We recognize that financial barriers exist for many women seeking fertility preservation. Although this study was not designed to capture specific limitations (including financial barriers) to initiating or continuing care, the data can be used to assist patients as they determine how to best financially plan for oocyte cryopreservation.

A few previous studies have evaluated the psychology behind planned oocyte cryopreservation and report that 53% of women considered their experience "empowering" (20) with very low rates of regret (21, 22). It must be also noted that previous studies surveyed women shortly after the decision to freeze eggs (1–5 years) and do not address ovarian stimulation cycle outcomes compared with expectations and statistical odds of live birth. In our study, few women (38%) met their total oocyte recommendations (only 4.3% within one cycle). This data significantly augments the counseling that providers can offer patients in preparation for planned fertility preservation cycles.

A total of 425 women returned to thaw their oocytes for intended use during the study timeframe. Race and ethnicity were associated with the decision to thaw previously cryopreserved oocytes (P<.001) and the use of donor vs. partner sperm for fertilization. Although there are well-documented racial disparities among women seeking assisted reproductive technology, including barriers in accessing infertility services in addition to varying assisted reproductive technology success rates with respect to race (23), limited data exists for planned oocyte cryopreservation thawing outcomes in minority women (24). Our data contributes to the paucity of literature in this space by highlighting an association between racial ethnicity and the pursuit, outcome, and utilization of cryopreserved autologous oocytes (25).

## Strengths and limitations

This study fills a gap in the literature addressing the achievability of cryopreservation goals that are often placed on patients seeking fertility preservation and explores socioeconomic factors that may influence the pursuit of oocyte cryopreservation. One strength of the study is its large sample size. This is an advantage because it ensures an increase in power and generalizability to the broader population of women who elect oocyte cryopreservation. Although the large sample size is a significant study strength, the wide time period of data collection can be a limitation. In a quickly evolving field, counseling patterns change based on internal trends and available data. Since the study includes cycles from 2012 to 2022, there may exist variations in patient counseling before the publication of 2016 article by Doyle et al. (11), which provides the oocyte cryopreservation counseling recommendations guidelines we discuss in this article. This variability in counseling may have biased patients in how readily they pursued additional cycles.

Our study has multiple limitations. First, we did not collect information regarding patients' insurance. Finances are well-known to be the most significant barriers to pursuing fertility preservation and it is likely that one's insurance coverage status may have influenced their decision to pursue these services (26). Although we did not control for this variable, most our cycles were performed in D.C. and Maryland, two areas with IVF and fertility preservation insurance mandates (19). Additionally, there was no information available on why individual women chose not to move forward with oocyte cryopreservation cycles. Specifically, Black or African American women were less likely to continue with a cryopreservation cycle than their peers. Over our study period, it is possible some of these patients had an unassisted pregnancy and therefore did not need to pursue oocyte cryopreservation. It is also feasible that patients who did not proceed with planned oocyte cryopreservation at our facility opted to pursue care through another facility. However, the differences we highlight contribute to the well-known documented disparities experienced by Black patients when seeking reproductive care. In future studies, patient-specific questionnaires may be helpful to understand why women do not ultimately achieve the recommended number of cryopreserved oocytes.

We were unable to collect information on the gender identity, sex assigned at birth, and sexual orientation of our patients given limitations of the patient intake form used during the data collection timeframe. This omission may limit the generalizability of these data to the lesbian, gay, bisexual, transgender, and queer communities. After study data collection, new patient intake forms have been updated to include this information. This clinical change is important to better understand and care for all patients seeking fertility preservation and may lead to improved opportunities for meaningful research. Although ethnicity and socioeconomic factors such as education and occupation were associated with cycle outcomes in our study, no causal inferences can be made with our current data.

# **CONCLUSIONS**

In our study, race/ethnicity was significantly associated with the odds of moving forward with oocyte stimulation for fertility preservation and egg retrieval after initial consultation with racial and ethnic minorities significantly less likely to continue treatment. Of those who undergo egg freezing, most women pursue more than one stimulation and cryopreservation cycle, yet never meet their recommended number to freeze. Our study suggests race, ethnicity, and socioeconomic factors may play a role in this decision. Planned fertility preservation counseling should include the likelihood that multiple cycles are necessary to achieve the recommended oocyte yield goal. Future studies are needed to better elucidate the reason women decide to pursue fertility preservation and how many cycles they ultimately achieve.

# **CRediT Authorship Contribution Statement**

David Boedeker: Writing – review & editing, Investigation. Marja Brolinson: Methodology, Investigation, Conceptualization. Alexandra C. Campedelli: Writing – review & editing, Investigation, Data curation. Rona Yu: Writing – review &

editing, Methodology, Data curation. Sorana Raiciulescu: Writing – review & editing, Methodology, Formal analysis. Kate Devine: Writing – review & editing, Resources, Project administration. Micah Hill: Writing – review & editing, Validation, Supervision, Methodology. Alan DeCherney: Writing – review & editing, Supervision. Trimble Spitzer: Writing – original draft, Methodology, Investigation, Conceptualization.

#### **Declaration of Interests**

D.B. has nothing to disclose. M.B. has nothing to disclose. A.C.C. has nothing to disclose. R.Y. has nothing to disclose. S.R. has nothing to disclose. K.D. reports consulting fees from BluDiagnostics and Medscape; honoraria from University of California, San Diego and Pacific Coast Reproductive Society; travel support from The American Society for Reproductive Medicine, The Society for Assisted Reproductive Technology and U.S. Fertility; data safety monitoring boards for Medscape, BluDiagnostics, Future Fertility, and LifeWhisperer; The Society for Reproductive Endocrinology and Infertility Research Chair, The Society for Assisted Reproductive Technology QA Chair, Medical Director; and Chief Research Officer, U.S. Fertility; stocks in U.S. Fertility (indirect) and Shady Grove Fertility; options in LifeWhisperer and Future Fertility. M.H. has nothing to disclose. A.D. has nothing to disclose. T.S. has nothing to disclose.

### **REFERENCES**

- Mathews TJ, Hamilton BE. Mean age of mothers is on the rise: United States, 2000–2014. NCHS Data Brief 2016:1–8.
- Livingston G, Cohn D. The new demography of American motherhood. Available at: http://www.pewresearch.org/social-trends/2010/05/06/the-new-demography-of-american-motherhood/. Accessed July 31, 2024.
- Livingston G. They're waiting longer, but U.S. women today more likely to have children than a decade ago. Available at: http://www.pewresearch. org/social-trends/2018/01/18/theyre-waiting-longer-but-u-s-womentoday-more-likely-to-have-children-than-a-decade-ago/. Accessed July 31, 2024.
- Mesen TB, Mersereau JE, Kane JB, Steiner AZ. Optimal timing for elective egg freezing. Fertil Steril 2015;103:1551–6.e64.
- Tavernise S, Miller C, Bui Q, Gebeloff R. Why American women everywhere are delaying motherhood. Available at: http://www.nytimes.com/2021/06/ 16/us/declining-birthrate-motherhood.html. Accessed July 31, 2024.
- Smith KS, Bakkensen JB, Hutchinson AP, Cheung EO, Thomas J, Grote V, et al. Knowledge of fertility and perspectives about family planning among female physicians. JAMA Netw Open 2022;5:e2213337.
- Practice Committees of the American Society for Reproductive Medicine and the Society for Assisted Reproductive Technology. Mature oocyte cryopreservation: a guideline. Fertil Steril 2013;99:37–43.
- Bakkensen JB, Flannagan KSJ, Mumford SL, Hutchinson AP, Cheung EO, Moreno PI, et al. A SART data cost-effectiveness analysis of planned oocyte cryopreservation versus in vitro fertilization with preimplantation genetic testing for aneuploidy considering ideal family size. Fertil Steril 2022;118:875–84.
- Gilchrist K. Egg freezing, IVF and surrogacy: fertility benefits have evolved to become the ultimate workplace perk. Available at: http://www.cnbc.com/

- 2022/03/14/egg-freezing-ivf-surrogacy-fertility-benefits-are-the-new-work -perk.html. Accessed July 31, 2024.
- Milman LW, Senapati S, Sammel MD, Cameron KD, Gracia C. Assessing reproductive choices of women and the likelihood of oocyte cryopreservation in the era of elective oocyte freezing. Fertil Steril 2017;107:1214– 22.e3.
- Doyle JO, Richter KS, Lim J, Stillman RJ, Graham JR, Tucker MJ. Successful elective and medically indicated oocyte vitrification and warming for autologous in vitro fertilization, with predicted birth probabilities for fertility preservation according to number of cryopreserved oocytes and age at retrieval. Fertil Steril 2016;105:459–66.e2.
- Goldman RH, Racowsky C, Farland LV, Munné S, Ribustello L, Fox JH. Predicting the likelihood of live birth for elective oocyte cryopreservation: a counseling tool for physicians and patients. Hum Reprod 2017;32: 853–9.
- Evans L. Racial and Ethnic Categories and Definitions for NIH Diversity Programs and for Other Reporting Purposes. Bethesda (MD: National Institutes of Health; 2015, Notice No.: NOT-OD-15-089.
- The National Career Clusters Framework. Available at: http://careertech.org/ what-we-do/initiatives/national-career-clusters-framework/. Accessed July 31, 2024.
- Cobo A, García-Velasco JA. Why all women should freeze their eggs. Curr Opin Obstet Gynecol 2016;28:206–10.
- United States Census Bureau Quick Facts: United States. Available at: http:// www.census.gov/quickfacts/fact/table/US/PST045219. Accessed July 31, 2024.
- Seifer DB, Zackula R, Grainger DA, Society for Assisted Reproductive Technology Writing Group Report. Trends of racial disparities in assisted reproductive technology outcomes in black women compared with white women: Society for Assisted Reproductive Technology 1999 and 2000 vs. 2004-2006. Fertil Steril 2010;93:626–35.
- Eichelberger KY, Doll K, Ekpo GE, Zerden ML. Black Lives Matter: claiming a space for evidence-based outrage in obstetrics and gynecology. Am J Public Health 2016;106:1771–2.
- RESOLVE: The National Infertility Association. Insurance coverage by state. Available at: http://resolve.org/learn/financial-resources-for-family-building/insurance-coverage/insurance-coverage-by-state/. Accessed July 31, 2024.
- Hodes-Wertz B, Druckenmiller S, Smith M, Noyes N. What do reproductiveage women who undergo oocyte cryopreservation think about the process as a means to preserve fertility? Fertil Steril 2013;100:1343–9.
- Stoop D, Maes E, Polyzos NP, Verheyen G, Tournaye H, Nekkebroeck J. Does oocyte banking for anticipated gamete exhaustion influence future relational and reproductive choices? A follow-up of bankers and non-bankers. Hum Reprod 2015;30:338–44.
- Greenwood EA, Pasch LA, Hastie J, Cedars MI, Huddleston HG. To freeze or not to freeze: decision regret and satisfaction following elective oocyte cryopreservation. Fertil Steril 2018;109:1097–10104.e1.
- Jackson-Bey T, Morris J, Jasper E, Velez Edwards D, Thornton K, Richard-Davis G, et al. Systematic review of racial and ethnic disparities in reproductive endocrinology and infertility: where do we stand today? F S Rev 2021;2: 169–88.
- Katler QS, Shandley LM, Hipp HS, Kawwass JF. National egg-freezing trends: cycle and patient characteristics with a focus on race/ethnicity. Fertil Steril 2021;116:528–37.
- Beroukhim G, Mahabamunuge J, Pal L. Racial disparities in access to reproductive health and fertility care in the United States. Curr Opin Obstet Gynecol 2022;34:138–46.
- Ethics Committee of the American Society for Reproductive Medicine. Disparities in access to effective treatment for infertility in the United States: an Ethics Committee opinion. Fertil Steril 2021;116:54–63.

#### Iniciación y resultados de las mujeres que buscan preservación planificada de la fertilidad

**Objetivo:** Estudiar los resultados del ciclo de mujeres que optan por la criopreservación de ovocitos, utilizando recomendaciones publicadas de ovocitos específicas por edad.

Diseño: Cohorte retrospectiva.

Lugar: Clínica.

**Paciente(s):** Un total de 5915 pacientes que buscaban una criopreservación planificada de ovocitos, 3504 finalmente se sometieron a estimulación ovárica con recuperación de ovocitos y criopreservación, 425 de esta cohorte se descongelaron posteriormente con la intención de utilizarlos para transferencia embrionaria.

**Intervención(es):** Criopreservación planificada de ovocitos.

**Principales medidas de resultado:** consulta planificada sobre criopreservación de ovocitos, ciclo(s) de preservación de la fertilidad y resultados de la estimulación ovárica.

Resultado(s): Un total de 5.915 mujeres fueron atendidas en la consulta inicial para la preservación planificada de la fertilidad (2012-2022). El origen étnico y el nivel más alto de educación fueron importantes para predecir quién seguiría adelante con la estimulación de ovocitos para preservar la fertilidad. Las mujeres que informaron trabajar acorde a la ley y políticas públicas y en los campos de la salud y la medicina tenían estadísticamente más probabilidades de seguir un ciclo que aquellas que mencionaron otras ocupaciones. De 3.504 mujeres en la cohorte del estudio que se sometieron a estimulación ovárica y extracción de óvulos, 1.331 (38,0%) alcanzaron la cantidad recomendada de ovocitos para congelar según la edad. Sólo 57 (4,3%) de estas mujeres que alcanzaron su objetivo de ovocitos basado en la edad lo hicieron después de su ciclo inicial de criopreservación. Hubo una asociación significativa entre el origen étnico y la cantidad de ciclos de criopreservación, lo que muestra específicamente que las mujeres negras o afroamericanas tenían menos probabilidades de completar dos o más ciclos. Las pacientes cuyos antecedentes educativos incluían títulos de posgrado o profesionales tenían más probabilidades de haber completado más de un ciclo.

**Conclusión(es):** La etnicidad autoidentificada se asoció significativamente con la probabilidad de avanzar con la estimulación ovocitaria para la preservación de la fertilidad y la extracción de óvulos después de la consulta inicial con las minorías étnicas, siendo estas significativamente menos propensas a continuar el tratamiento. De aquellas que se someten a la congelación de óvulos, la mayoría de las mujeres realizan más de un ciclo de estimulación y criopreservación, sin embargo la mayoría nunca alcanza el número recomendado a congelar.