Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

(FET) after PGT-A is unknown, including rates for first versus second baby. We sought to evaluate whether patients undergoing FET after PGT-A choose to select for sex, and if sex selection rates differ before and after successful delivery of a first baby.

MATERIALS AND METHODS: This is a retrospective cohort study from a single academic fertility center between January 2013 and February 2021 of all patients with a live birth (LB) after single embryo euploid FET who returned for at least one subsequent euploid FET. Transfers without both sexes available for transfer were excluded. The primary outcomes were the rates of sex selection for first versus second baby. Secondary outcomes were rate of selection for same versus opposite sex as first LB and overall rate of selection for males versus females. Statistical analysis included the Chi-Squared test and Mann Whitney U test with a significance threshold of $p<0.05$.

RESULTS: 585 patients, aged 25-46 years old, were reviewed and underwent a total of 1,560 single euploid FETs resulting in either one or two LBs. A choice between male and female euploid embryos was available for 919 FETs (1st child 67.5% (519/769) vs. 2nd child 50.6% (400/791), $p<0.01$). When a choice was available, patients selected the sex more frequently when trying to conceive the second child (1st child 32.4% (168/519) vs. 2nd child 62.0% (248/400), $p<0.01$). When sex was selected after first LB, the opposite sex of the first child was selected 81.8% (203/248 FETs) of the time. Of transfers that involved sex selection, rates of male and female selection were similar for the first child, but selection for females was greater for the second child (1st child: 51.2% (86/168) male vs. 48.9% (82/168) female, 2nd child: 41.1% (102/248) male vs. 58.9% (146/248) female, $p<0.04$). There was no difference in median age between patients who selected or did not select for sex (selected: age 35 (25-46) years vs. did not select: age 35 (25-44) years, $p=0.51$). Although the analysis included only single embryo transfers, it was notable that seven reviewed transfers were double embryo FETs in which patients requested one male and one female. Moreover, one patient chose to transfer a mosaic female embryo instead of a euploid male.

CONCLUSIONS: Patients undergoing PGT-A with both male and female euploid embryos available for transfer were more likely to select for sex after first LB and were most likely to select the opposite sex of their first child. There was no preference for males versus females for transfers leading up to first LB, but selection for females was greater after first LB. These findings highlight the use of PGT-A for family balancing for patients who undergo PGT-A.

IMPACT STATEMENT: When patients are given the knowledge and choice of embryo sex via PGT-A, there is a high rate of sex selection after first live birth. As PGT-A becomes more widely utilized, sex selection may play a larger role in some patients' fertility journeys.

O-164 11:00 AM Tuesday, October 19, 2021

ARE FERTILITY TREATMENT RETENTION RATES AFFECTED BY PATIENT PSYCHIATRIC HISTORY? Stephanie R. Brownridge, M.D., Mary Rausch, MD Northwell Health Fertility, North Shore University Hospital/Donald and Barbara Zucker School of Medicine at Hofstra/Northwell, Manhasset, NY.

OBJECTIVE: Patient retention is an important component of fertility treatment. Addressing barriers to continuation of care can improve retention and benefit those seeking guidance on family building. While it is understood that fertility treatment can cause psychological distress, the impact of an existing psychiatric illness on retention is less known. We aim to determine whether a pre-existing diagnosis of a psychiatric illness is an independent factor in determining patient retention.

MATERIALS AND METHODS: All new patients at a single site of our academic institution from October 2019 to March 2020 (COVID closures) were assessed for eligibility. Of 545 patients, 143 were excluded due to age >45 years, pregnancy on initial consultation, history of cancer, or missing chart data. Charts were reviewed for a diagnosis of any psychiatric condition. Patient discontinuation was defined as loss to follow up prior to treatment completion. The data was analyzed to exclude patients who stopped treatment due to the COVID closure (43 patients). Fisher's exact test and Kaplan Meier Curves were used with a p-value of <0.05 as significant.

RESULTS: Of the 359 included patients, 47 had a diagnosis of a psychiatric condition. Diagnoses included 20 patients (43%) with depression, 23 patients (49%) with anxiety, and 4 patients (8%) with "other" (bipolar disorder, obsessive-compulsive disorder, attention deficit disorder, attention deficit hyperactivity disorder). During the study period, 21 of 47 (45%) patients with a psychiatric condition and 124 of 312 (40%) patients with no psychiatric conditions discontinued care ($p=0.53$). Time to discontinuation was not significantly different between the groups whether patients had a psychiatric condition (15 months with no psychiatric history versus 12 months with a psychiatric history, $p=0.71$), and whether that condition was treated (12 months with psychiatric treatment versus 10 months with no psychiatric treatment, $p=0.66$). A sub-group analysis was performed by psychiatric condition. A diagnosis of depression did not impact the discontinuation of fertility treatments (33% versus 50%, $p=0.37$). However, patients with a diagnosis of anxiety were significantly more likely to discontinue care than those without anxiety (67% versus 35%, $p=0.04$).

CONCLUSIONS: Our data show a diagnosis of anxiety can have an impact on fertility treatment retention rates. These data suggest that apart from the well-established psychological distress that infertility itself poses, recognizing and addressing pre-existing psychiatric disease must be an important goal of the fertility work-up. A thorough medical and psychiatric history to ensure patients are receiving proper treatment and support is paramount not only to improve retention rates, but in doing so, to ensure patients realize their family building goals.

IMPACT STATEMENT: Presenting with a history of anxiety can have a significant impact on fertility treatment retention rates and pre-existing psychiatric disease should be recognized and addressed in all fertility patients.

O-165 11:15 AM Tuesday, October 19, 2021

THE IMPACT OF COVID-19 DIAGNOSIS ON FERTILITY-RELATED STRESS AND FERTILITY OUTCOMES IN AN IVF POPULATION. Salomeh M. Salari, MD MS,[1] Rebecca K. Chung, MD,[1] Rhea Chattopadhyay, MD,[1] Heather Tribout, BS, CCRP,[2] Ashley Brown, MSN, APRN-CNP,[2] Mary Howard, CNP,[2] Rebecca Flyckt, MD,[3] Rachel S. Weinerman, MD[2]
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OBJECTIVE: To determine the effect of COVID-19 exposure or diagnosis on fertility-related stress and early pregnancy outcomes

We hypothesize that COVID-19 exposure or diagnosis would negatively impact fertility-related stress and subsequently fertility and early pregnancy outcomes.

MATERIALS AND METHODS: In a single academic center, patients undergoing fertility treatments via IVF or FET between the ages of 18 to 45 were eligible to participate in this study. Patients were recruited at the beginning of their treatment cycle and completed the validated FertiQOL questionnaire as well as an online survey assessing COVID-19 exposure. Primary outcomes include pandemic-related stress levels such as grief, mood, anger, and pain. Cohorts studied included: non-COVID (no concern for COVID-19 infection, including no formal diagnosis or perceived illness) and COVID (perceived/symptomatic or confirmed diagnosis) patients. FertiQOL questionnaire results were analyzed between the two cohort groups.

RESULTS: A total of 115 subjects were recruited. The non-COVID cohort consisted of 64 participants and the COVID cohort consisted of 51 participants. There was a significant decrease in satisfaction with the level of support from friends/family *($p=0.04$)*, in COVID patients compared to non-COVID patients. COVID patients were more likely for their infertility to negatively impact their mood *($p= 0.0005$)*. Though not statistically significant, COVID cohort patients trended towards poorer self-perceived health and decreased satisfaction with available fertility services. There were no significant differences in overall quality of life, anger, depression, pain, or perceived complications with use of medications and treatments. There

was also not a significant difference in number of eggs retrieved, percent of mature eggs, or clinical/ongoing pregnancy rates.

CONCLUSIONS: The COVID-19 pandemic has had a negative impact on infertility patient populations. Specifically, COVID patients with infertility experienced significantly decreased mood and less support from family and friends compared to non-COVID patients. While there is no difference in overall quality of life, or fertility and early pregnancy outcomes, understanding the nuances of patients' experiences in the pandemic will allow for more insight into the way in which care is provided. Additionally, COVID-19 diagnosis and exposure does not appear to affect fertility treatment or early pregnancy outcomes. Therefore patients may be counseled that previous COVID-19 infection or concerns regarding possible exposure do not affect their fertility and early pregnancy outcomes.

IMPACT STATEMENT: This study shows the negative impact of perceived and confirmed COVID-19 exposure on stress levels related to infertility. These findings can guide how IVF patients are counseled and reassured during the pandemic.

SUPPORT: This study is grant-funded by the University Hospitals Research & Education Institute COVID Rapid Response Pilot Program

O-166 11:30 AM Tuesday, October 19, 2021

THE RELATIONSHIP BETWEEN PERCEIVED STRESS DURING THE COVID-19 PANDEMIC AND MENSTRUAL CYCLES AND SYMPTOMS.

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OBJECTIVE: The COVID-19 pandemic exacerbated existing and initiated new psychosocial, interpersonal, and environmental stressors. For menstruating people, these stressors may contribute to cycle irregularity and make family building an even more challenging journey. This study investigates the relationship between perceived stress and menstrual cycle and symptom changes during the COVID-19 pandemic.

MATERIALS AND METHODS: A survey was administered to users of Ovia Health's Fertility mobile application in the United States from March 2020 to April 2021. Items captured changes in menstruation pattern and symptomology and included the Perceived Stress Scale 4-item version (PSS-4).[1] A paired *t*-test was used to assess differences between groups. A *p*-value of < 0.05 was considered statistically significant.

RESULTS: Out of a total of 12,302 respondents, 36% reported experiencing some menstrual cycle and/or symptom changes. Most commonly reported changes included cycle starting early or late (87%), stronger symptoms during menstruation (e.g. low back pain, cramping, discharge changes) (29%), and heavier bleeding during periods (27%). Respondents reporting menstrual cycle or symptom changes tended to score slightly higher on average on the PSS-4 compared to those who did not report any changes (8.5 v. 8.3, respectively, $p < 0.05$). PSS-4 scores in this sample were notably higher in all respondents, regardless of cycle/symptom irregularity, compared to pre-pandemic benchmarking in similar populations.[2-3]

CONCLUSIONS: These results demonstrate that this sample's reported stress levels during the pandemic were noticeably higher than pre-pandemic benchmarks, and that these stress levels may contribute to changes in reproductive physiological processes such as menstruation. These changes may be especially frustrating and impactful for individuals trying to conceive and those struggling with infertility.

IMPACT STATEMENT: Reproductive medicine specialists should be aware of the relationship between stress fostered by the COVID-19 pandemic and menstrual pattern disruption, especially for patients trying to conceive with irregular menstrual patterns or those struggling with infertility. Providers should work together with their patients to formulate strategies to mitigate the impact of stress on menstrual cycle changes in order to optimize conception and fertility treatment outcomes.

References

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SUPPORT: None.

O-167 11:45 AM Tuesday, October 19, 2021

IMPACT OF EMPATHIC PHYSICIAN CONTACT ON PATIENT ANXIETY AND DISTRESS DURING THE WAITING PERIOD AFTER EMBRYO TRANSFER (ET): A RANDOMIZED CONTROLLED STUDY.

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OBJECTIVE: To investigate if an empathic physician phone call during the waiting period, between ET and first pregnancy test, decreases anxiety/distress amongst in vitro fertilization (IVF) patients.

MATERIALS AND METHODS: We included female patients aged 18-43 undergoing their first ET with autologous fresh or euploid cryopreserved-thawed embryos following preimplantation genetic testing–aneuploidy (PGT-A). Prior to the first monitoring appointment, patients completed an online survey comprising demographics, State-Trait Anxiety Inventory (STAI), and Hospital Anxiety and Depression Scale (HADS). After ET, patients were randomized (stratified for fresh and PGT-A) to either a 5-minute scripted phone call (CALL) from a single physician 3-4 days after the ET or routine care (RC). The physician received empathy training prior to the study. Patients completed a follow-up survey 8-9 days after ET but prior to pregnancy test. We calculated mean paired differences between the groups using two-tailed t-tests.

RESULTS: We enrolled 373 patients and randomized 231 (164 fresh, 67 PGT-A). Baseline patient and IVF characteristics were similar, including reported history of anxiety or depression. Phone call duration was 5.6 $\pm$ 0.6 minutes. Baseline scores were similar for both STAI-State (CALL: 40.4 $\pm$ 10.1, RC: 39.4 $\pm$ 10.4; P=.43) and HADS (CALL: 10.3 $\pm$ 5.5, RC: 10.3 $\pm$ 5.8; P=.95). There were lower mean increases in the CALL group compared to the RC group for both the STAI-State (3.3 $\pm$ 10.5 vs. 7.8 $\pm$ 11.8, respectively; P=.002) and the HADS (0.3 $\pm$ 4.6 vs. 2.4 $\pm$ 5.7, respectively; P=.002). The majority of patients in the CALL group found the call helpful and reported that it decreased anxiety/distress (Table 1). Most (83.5%) patients in the RC group stated that a physician call would be helpful during the waiting period, with 86.1% reporting the call would decrease their anxiety/distress.

CONCLUSIONS: A physician phone call during the waiting period mitigates patient anxiety/distress. Most patients in the RC group noted that a physician call would be welcome to decrease anxiety/distress.

IMPACT STATEMENT: Empathic physician contact during the waiting period after ET is beneficial for providing patient reassurance and support and for decreasing stress.

TABLE 1. Characteristics of the physician call for the CALL group

Characteristic	**CALL group n = 116**
How helpful was the call?*	
Very helpful	64 (55.2)
Somewhat helpful	42 (36.2)
Neither helpful nor unhelpful	10 (8.6)
How did the call affect your levels of distress and anxiety?†	
Decreased very much	31 (26.7)
Decreased a little bit	63 (54.3)
Did not affect	20 (17.2)
Increased a little bit	2 (1.7)

Data are shown as n (%)
*No respondents selected "somewhat unhelpful" or "very unhelpful"
†No respondents selected "increased very much"