Telehealth In Assisted Reproductive Technology To Improve Disparities in Access to Care in Rural Georgia

Author
Anna M. Gaidis, MD

Objective
Infertility affects up to one in every six couples trying to conceive. Assisted reproductive technologies (ART) is a commonly used method to treat tubal, male, age related and multifactorial infertility. Despite 40 years since the first ART baby birth, significant disparities still exist, particularly in the southeastern United States. Only 60% of women who require ART are able to proceed with treatment due to the scarcity of fertility specialists in central Georgia. Furthermore, the physical and financial burden associated with time off from work and travel creates additional barriers. Telehealth is a well-established tool that alleviates these burdens. While other areas of medicine have welcomed this technology, reproductive medicine has yet to utilize it to its full potential. We implemented a regional telehealth program to help close the gap and improve existing disparities in ART access in Georgia and neighboring states. Our aim is to evaluate our telehealth program's ART outcomes and patient satisfaction of those living remotely.

Design
Retrospective cohort and cross-sectional survey study.

Methods
Patients who utilized the telehealth application for ART services at Augusta University (AU) between September 2015 to November 2018 were identified. The study was approved by AU IRB. Demographic variables were collected using the electronic medical record including age, type of ART cycles, travel distance, number of visits, and treatment outcomes. Patients were electronically mailed a validated questionnaire created via the qualtrics^{XM} application. The survey included a patient satisfaction questionnaire as well as travel distance, number of visits, and ART treatment outcome. Data analysis was performed with descriptive statistical methods.

Results
A total of 98 patients were identified of which 57% were < 35 years old (y/o) and 43%> 35 y/o. 55% of patients had autologous fresh in vitro fertilization (IVF) cycles, 39% frozen embryo transfer, 2% donor oocytes, 1% embryo adoption, 1% gestational carrier and 2% had cycle cancellations due to diminished ovarian reserve and poor response to ovarian stimulation. The overall clinical pregnancy rate was 60.2% (66% <35 y/o and 34% >35 y/o) with an overall live birth rate of 32% (70% <35 y/o and 30% >35 y/o). The cohort's mean number of visits was 2.93 (0.82 +/- SD). The survey response rate was 65/98 (66%). 35% of responders were <35 y/o and 65% >35 y/o. The mean number of visits for responders was 4.44 (1.54 +/-SD) and mean travel distance 171.4 miles (0.98 +/-SD). All responders underwent transvaginal oocyte retrieval and embryo transfer. For surveyors, the clinical pregnancy rate was 29/65 (44.6%) with a live birth rate of 20/65 (30.7%). 69% of patients reported being highly satisfied with the telehealth service to enhance access to ART. 44% of patients stated they would recommend telehealth use for ART to others.

Conclusions
Our study demonstrates that employing modern telehealth applications improves access to ART care in underserved areas. Fewer office visits maintains high patient satisfaction due to accessibility and cost reduction associated with travel and time off work.