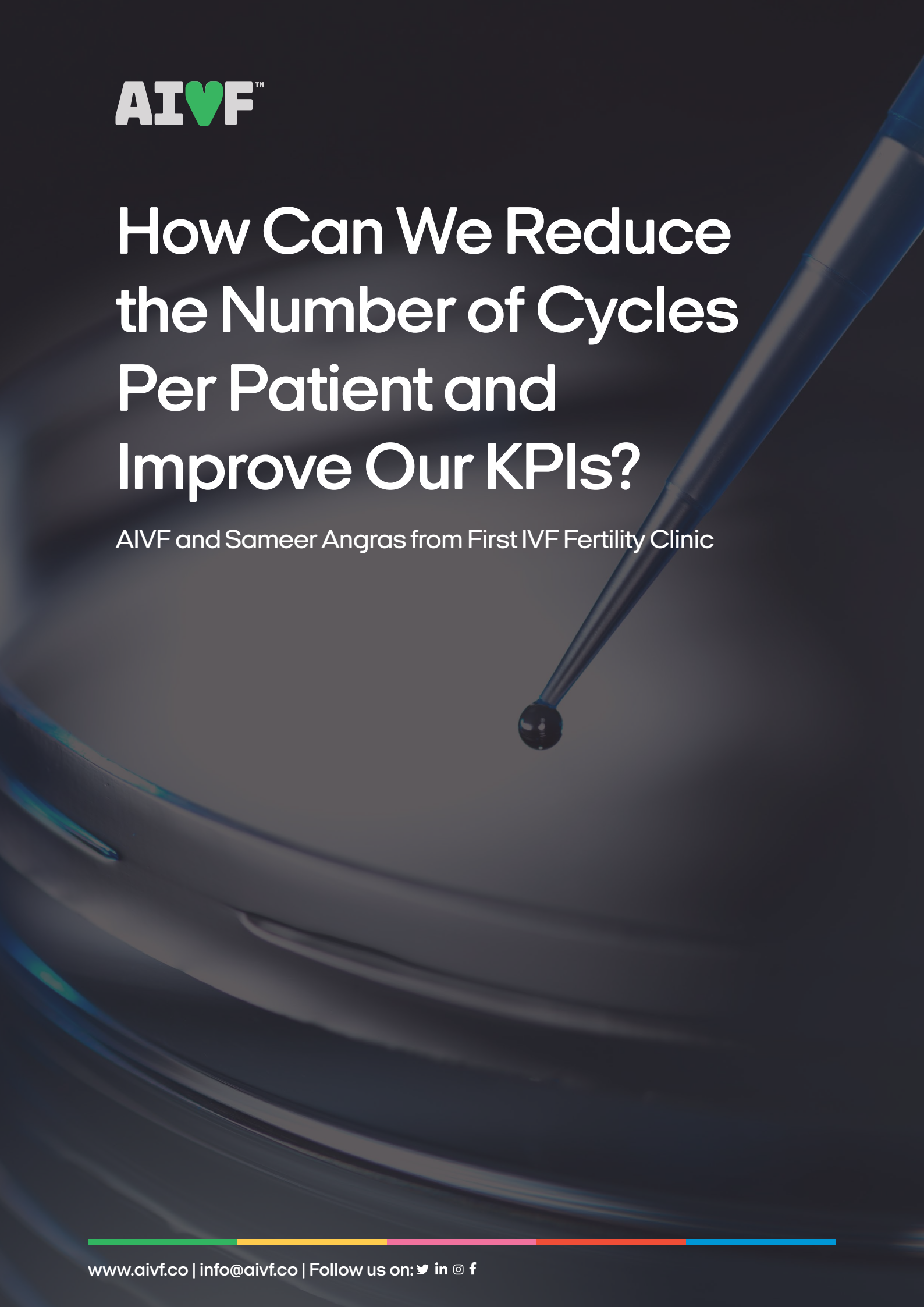

How Can We Reduce the Number of Cycles Per Patient and Improve Our KPIs?

AIVF and Sameer Angras from First IVF Fertility Clinic

IVF processes are time-consuming, expensive and emotionally taxing for patients. Moreover, the success rate of IVF has remained stagnant at 30% for a decade[1], which means patients are often required to go through multiple cycles in order to conceive. Added to this the average number of cycles per patient and success rates vary from clinic to clinic. This means that patients are doing their due diligence and researching where to go for treatment based on success rates, among other criteria. The solution for IVF clinics is right at our fingertips - AI solutions are now available to help us transform our work, our clinic and our patient's fertility journey.

The Future is AI

Like in many other industries, it is no longer a question of if to implement AI, but when to implement AI. With the ability to automate manual processes and reduce workloads, tech-enabled fertility clinics are undoubtedly the future of IVF. At AIVF, we developed the EMA AI platform to seamlessly connect biological knowledge, digital systems and the care team with the aim to improve patient outcomes.

As AIVF drives the digital transformation of embryology labs, clinics in Europe have already taken the first steps into the future. For instance, First IVF is the first clinic in Ireland to start using two AI technologies in the embryo selection process ."IVF has not progressed much over the last 20 years," says Sameer Angras, Scientific Director and IVF Lab Director at First IVF. "In fact, the average success rate is only around 30%. By using AI and PGT testing, we are trying to reduce the time to Pregnancy - reduce the cycles needed to 1 or 2".

The reason for implementing technologies such as AI is two-fold. First, the goal is to optimize the patient journey in hopes to reduce the financial and emotional impact , and the second goal is to minimize errors. These two feed one another, and essentially, have the potential to completely transform IVF clinic processes.

Optimizing Results

First IVF uses advanced technologies, including the Embryscope time lapse incubator and the EMA AI software platform. Angras believes that these two systems complement one another and will gradually lead to relying almost solely on the AI system and thus preventing human error while automating manual tasks.

Like other labs, First IVF also uses an electronic witnessing system, which has become standard in IVF clinics to assist with the identification of patients and traceability of their reproductive cells. While new technologies are being adopted, certain processes are still conducted manually in IVF labs. For instance, barcodes are often managed using Excel spreadsheets, and clinics are compelled to manually type in all the data. The bottom line is that the systems and people in the IVF lab today are not digitally connected.

One of the key features of the EMA platform is exactly that end-to-end connectivity. Direct integration with the lab's EMR and time lapse incubators reduces the need for manual input of patient data which in turn minimizes the chance of errors. In the future, connectivity with barcode and witnessing systems will create a seamless, automated and reliable flow of data between the care team and patients. "With the barcode system we will just need to scan it and automatically all data will enter into the system."

[1] De Geyter C, et al. Human Reproduction 352832–2849

Data is Power

The EMA platform has several advantages over other systems . First, the artificial intelligence that drives EMA embryo evaluation is based on large and diverse data set.

Second, EMA provides the clinic with additional tools beyond embryo evaluation, including powerful analytics to analyze key performance metrics in a single click. The analytics allows tracking procedures to identify trends and provide a real-time response when necessary.

“For example, if our fertilization rate is 80% and suddenly it drops, I can see it immediately and start investigating the reason for that,” Angras says. "The information can also accurately locate the source of the issue that needs to be addressed. Regarding pregnancies for example, the doctor wants to know what to share with his patient as well, statistics that she needs to be aware of such as pregnancy rates for a specific segment of patients (age, BMI, number of cycles).”

But that is not all the platform can do. Angras also notes that being able to have a bird’s eye view on the entire clinic and lab, can provide useful data-driven insights, and assist in ensuring its smooth and healthy operation.

Connecting Patients and Embryologists

For clinics, an inseparable aspect of the IVF process is providing transparency, education and the human touch for patients. Therefore, it is crucial that patients are aware of the advanced technology tools implemented in the lab, which is precisely what the First IVF lab does. Physicians explain the processes to the patients, discuss the procedure and also present the morphologic score, as well as the automated AI score, explaining what they both mean. According to Angras, patients are often comforted by having more information.

From the diagnostic point of view, having such a powerful tool, allows physicians to make adjustments according to the platform’s findings. Angras explains for example, “if we transferred 2 or 3 embryos with high scores and the patient didn’t conceive, we can deduce there are other issues. Using the EMA platform, labs can inspect previous cycles, when the AI wasn’t available. “The AI analysis can be run on the frozen embryo videos so that we can score them before transfer and choose the best. And the results speak for themselves".

Embryology Labs of the Future

Change is inevitable and progress is often born from necessity. Especially when it comes to transforming legacy systems to improve emotionally and physically complex and costly fertility procedures. AI augments embryologists with objective, data-driven information to assist their decision making. The EMA platform provides automated embryo evaluation and a powerful analytics tool for IVF clinics with the goal to provide better patient outcomes and care.