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IVF calculator may help predict chances of having a baby

By [Lisa Rapaport](http://uk.reuters.com/journalists/lisa-rapaport)

(Reuters Health) - A new calculator can help couples see their odds of success with in vitro fertilization (IVF) before they start treatment, a recent study suggests.

Doctors have traditionally been reluctant to estimate couples’ chances of having a baby before they complete at least one cycle of IVF, allowing clinicians to assess the quality of the eggs, sperm and embryos in addition to individual characteristics such as age, weight and medical conditions.

With the new pre-treatment calculator, however, women can get an estimate of their chances before that first cycle of IVF and it can be adjusted based on what doctors discover after that cycle is completed, said lead study author Dr. David McLernon of the University of Aberdeen in the U.K.

“I don’t think women would want to undergo their first cycle of IVF just to determine their chances in future cycles – I think their aim would be to have a baby in that first attempt,” McLernon said by email.

For the current study, researchers examined data on 113,873 women with 184,269 complete IVF cycles.

Overall, 29 percent of the women had a baby after one cycle and 43 percent delivered an infant after six complete cycles, researchers report in The BMJ.

Age was one pre-treatment indicator of the odds of success. Women who were 31 years old before the first cycle of IVF were 66 percent more likely to have a baby than women who were 37 years old, for example.

The number of years couples experienced infertility before trying IVF also factored into their odds of success before treatment. Couples were 9 percent more likely to have a baby after three years of infertility than after six years.

Once IVF started, factors that influenced the odds of success included the woman’s age, the number of eggs retrieved in the cycle, whether the eggs were frozen and how developed the embryos were before being transferred from the lab into the woman’s uterus.

A greater number of eggs produced in a cycle increased the odds of success up to 13 eggs, but more than that might mean lower quality eggs and lower chances of a baby, the study found.

Combining all these factors, researchers calculate that before treatment, a 30-year-old woman with two years of unexplained infertility has a 46 percent chance of having a baby after one cycle of IVF and a 79 percent chance of success over three complete cycles.

IVF can take a steep emotional and financial toll on couples, and the calculator can’t address every factor that may influence whether any given cycle of treatment results in a baby, the authors caution.

It’s also possible that some factors not included in the calculator might still impact the odds of success for a given patient, noted Judy Stern, an obstetrics researcher at Dartmouth-Hitchcock Medical Center in Lebanon, New Hampshire.

“To the degree that the patient understands that success rate, realizes that it is AN ESTIMATE ONLY, and understands that additional factors not included in the model could influence the outcome, it can be helpful,” Stern, who wasn’t involved in the study, said by email.

“It can also give false hope (or lack of hope) and it is thus important that patients thoroughly discuss these rates and their own specific situation with their providers,” Stern said.

The calculator in the study does have some advantages over one from the Society for Assisted Reproductive Technology (SART) that many doctors currently use, said Dr. Kevin Doody, SART president and a researcher at the University of Texas Southwestern Medical Center in Dallas.

SART’s “Patient Predictor” calculator (available here: [bit.ly/1O5q2XX](http://bit.ly/1O5q2XX)) only goes up to three cycles and doesn’t include some factors related to frozen embryos, Doody said by email.

At the same time, the current study’s “OPIS” calculator (available here: [bit.ly/2g4ZEWi](http://bit.ly/2g4ZEWi)) doesn’t predict success based on the number of embryos transferred or examine the risk of twins, things the SART calculator does include, Doody said.

“These models are great in that they demonstrate that success rates with IVF can be quite high, but some women will need to undertake several cycles,” Doody said.

SOURCE: [bit.ly/2fsmatK](http://bit.ly/2fsmatK) The BMJ, online November 16, 2016.