

## Scientific evidence shows the need for a fresh approach to IVF

“Ultimately, scientific developments and innovations mean that the potential for IVF is almost infinite ... We need a paradigm shift to include long-term safety as part of the definition of success of IVF.”

**Geeta Nargund** is a pioneer in the field of Natural and Mild IVF and Advanced Ultrasound Technology in Reproductive Medicine, and founder and Medical Director of CREATE Fertility Natural and Mild IVF clinics. She is also an accredited trainer for special skills modules of the Royal College of Obstetricians & Gynaecologists London and the British Fertility Society. She pioneered the use of follicular Doppler in assessing 'egg quality' in humans. She also published the first scientific paper on 'Cumulative live birth rates with natural cycle IVF'. As President of the International Society for Mild Approaches in Assisted Reproduction she has been the voice for women's choice, health and education in the field of Assisted Reproductive Technology globally. She promotes safer, less-drug-orientated and accessible ART. She is actively involved in research in making IVF more natural, accessible and safer for women and children. She is the Chief Executive of the UK National charity, Create Health Foundation. This Charity funds and supports women's health education in the UK and in Africa.

**Q** Dr Nargund, you are the Medical Director of CREATE Fertility & President of the International Society for Mild Approaches in Assisted Reproduction – can you tell us a little about how you became involved in this area of IVF?

I chose to specialize in the field of fertility and IVF because it was the most exciting area for research and development during my training. I found it very rewarding to help couples have children. Put simply, the creation of life brings happiness to all.

Later in my career, I became concerned about serious complications of ovarian stimulation such as ovarian hyperstimulation syndrome (OHSS), which can, in its most serious form, be fatal. This saddened me and I decided to work toward making IVF treatment safer for women. I began studies into natural and mild IVF and published several peer-reviewed scientific papers [1-3]. I organized the first and second world Congresses in Natural and Mild IVF in London in 2006 and 2008, which attracted leading scientists from all over the world.

My work and commitment were recognized by Professor Robert Edwards, the pioneer of IVF and other leading world experts in IVF, which led to the formation of an International Society in Mild Approaches in Assisted Reproduction [4]. CREATE Fertility was the first (and remains the only) IVF clinic in the UK to offer successful and safe mild and natural IVF [5] as a first option.

I am proud to have made a difference globally in the adoption of safer, more natural and accessible IVF methods.

**Q** Can you explain the differences between natural IVF & mild IVF for both the mother & fetus?

Natural IVF relies on the natural selection of the egg by the woman's ovary with no stimulating drugs. Mild IVF involves the use of low doses of stimulation for a short period (5–9 days) in the woman's own natural cycle. These methods offer a far healthier alternative to conventional IVF, which involves the suppression of hormones (via drugs) in order to achieve a menopausal



**Geeta Nargund**

Lead Consultant in Reproductive Medicine at St George's Hospital NHS Trust, and President of the International Society of Mild Approaches in Assisted Reproduction, London, UK and Visiting Professor at Hasselt University Medical Faculty Belgium, St Marco University Lima, and SDM Medical College India  
[geetanargund@gmail.com](mailto:geetanargund@gmail.com)

status and the use of high stimulation drugs (lasting for 4–5 weeks in total).

Using no or lower drug dosages, natural and mild IVF can help to eradicate OHSS and reduce physical and psychological discomfort, side effects and risks to women's short- and long-term health. The total cost is also much lower thus increasing accessibility of IVF for all.

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Furthermore, scientific evidence [6] has shown that the lining of womb is healthier for implantation in natural and mild stimulation cycles. The birth weight of babies born from modified natural IVF (with physiological estrogen levels) is higher compared with conventional IVF, which can lead to long-term better health for the children [7]. Therefore mild IVF is a ‘win win’ situation for mother and baby.

**Q Can you tell our readers a bit about the latest research? What was the purpose of the studies & what were the main findings with regard to mother & fetus?**

At the 7th World Congress on Mild Approaches in Assisted Reproduction in Sydney this year, two key studies revealed significant findings as to what is safe and unsafe in IVF practice.

This first was a study [8] published in April 2014 by Steward *et al.*, based on data from the American National IVF Registry. Data from 256,381 IVF cycles revealed evidence of the physiological burden that traditional IVF can impose on patients. The results showed that the retrieval of more than 15 oocytes or eggs, in IVF cycles significantly increases the risk of ovarian hyperstimulation syndrome without improving live birth rates.

The second study was an analysis of UK HFEA data presented by Sunkara *et al.* [9] in June this year. The study of 66,539 singleton live births from IVF showed that women who had more than 15 eggs collected had a significantly higher chance of having a low birth weight and preterm baby.

The outcomes of both these studies suggest that elevated estrogen levels generated by higher doses of hormones could have a detrimental effect both on mothers and offspring. There is a link between the welfare of the mother and child in IVF, and it is critical to also take into account the impact of higher dose stimulation in women undergoing treatment who ultimately do not have a baby.

**Q What are the wider implications of this research with regard to legislation & policy?**

These findings have huge implications on IVF practices and their effects on health and safety of women and children. Currently data on the incidence of OHSS in the UK are under-reported and therefore unreliable.

In the UK, we need to broaden the Human Fertilization and Embryology Act to include ‘welfare of women’ in addition to the ‘welfare of child.’ This would ensure the more stringent monitoring of IVF in clinical practices.

**Q What changes do you hope to see regarding IVF treatment & data collection & presentation as a result of recent research?**

The Human Fertilization and Embryology Authority (HFEA), the national UK IVF regulator, must start regulating drug administration to women during IVF treatment and collecting data about what drugs are given to women during IVF treatment and in what dosages. This information is essential in order to monitor practices and control the prescription of unnecessary high-dose stimulation drugs (and in some cases unlicensed drugs), which are frequently given to women by some clinics and which can impact on health and safety of both the women and their babies. We will never be able to audit or publish long-term effects and risks of drugs to women and children in the UK unless we have this information in our national database.

**“The medical community must embrace patient-friendly IVF and move away from clinic-friendly IVF .”**

Most national registries in the developed world already collect such information. The UK is failing in this regard. The publication of ‘success rate per cycle’ per clinic must be stopped with immediate effect. Clinics are at the moment competing for success rate per cycle and some clinics are using this information to publish league tables on their websites in order to attract patients to their clinics, which is unacceptable.

The current commonplace publication of ‘success rate per cycle’ mitigates against the safety of IVF by discouraging OHSS prevention strategies that aim to improve neonatal health and well-being of the mother.

The HFEA should publish ‘adverse incidents’ such as OHSS, low birth weight, still birth and prematurity data per clinic alongside the publication of ‘term live birth rate per embryo transferred’ in order to enable prospective patients to make a balanced decision before choosing the clinic.

**Q** In general, how do you see the field of IVF progressing over the next 5 years? What are the main obstacles that the medical community needs to overcome?

With an increasing scientific evidence base showing the success of ‘OHSS free’ mild stimulation IVF, I believe we will see the wider use of mild stimulation IVF and the application of natural IVF in women with low egg reserves in place of conventional and old-fashioned IVF.

The medical community must embrace patient-friendly IVF and move away from clinic-friendly IVF. The long-term safety of all women (regardless of whether they get pregnant or not) and that of children born with IVF treatment should dictate the protocols used in clinical practice. Minimizing OHSS and multiple pregnancies can only happen by self-regulation or by stricter regulation by the national regulator.

Over the next 5 years, I think we will also see egg freezing being used more widely by younger women for postponing pregnancy. Essentially, the advances and success using vitrification (fast freezing method) has allowed women to make a choice about when they want to have a baby. This arguably forms the second wave of female emancipation, following introduction of the oral contraceptive pill several decades ago.

Another likely trend is that the number of single women and same-sex partners having fertility treatment will increase.

Ultimately, scientific developments and innovations mean that the potential for IVF is almost infinite. The only obstacle would be reluctance by those working in the industry to accept modern practices. We need a paradigm shift to include long-term safety as part of the definition of success of IVF. Overall, I am optimistic about the future in IVF.

#### Disclaimer

The opinions expressed in this interview are those of the interviewee and do not necessarily reflect the views of Future Medicine Ltd.

#### Financial & competing interests disclosure

G Nargund is owner and founder of Create Fertility IVF clinics. The author has no other relevant affiliations or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript apart from those disclosed.

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