

# *Advances in technology*

In October 2010, the Noble Prize in Physiology and Medicine was awarded to Prof. Robert Edwards, the man who was ridiculed for experimenting with what was considered the greatest threat to humanity since the atomic bomb!

It's hard to believe today, that in the seventies even serious scientists suspected that Louis Brown, the first IVF baby might be born with monstrous birth defects. They wondered, "how can it be possible to mess around with eggs and sperm in a petri dish and not do some kind of serious chromosomal mischief?"

Edwards and his collaborator, Patrick Steptoe, who died in 1988, became notorious after they announced that they had fertilized a human egg outside the mother's womb. In England, reporters camped out on the lawn of the prospective parents, Lesley and John Brown, for weeks before the baby's due date.

When Mrs. Brown got herself admitted in the Maternity Hospital, for her delivery, she did so under an assumed name. But the news was so terrific that reporters sneaked past security dressed as plumbers and priests in hope of getting a glimpse of her. Fortunately, Louise Brown was not born a monster; but rather a healthy, 5- pound, 12-ounce blonde baby girl. She had no birth defects at all, and suddenly her existence seemed to demonstrate that there was nothing to fear about IVF. The birth of the "baby of the century" paved the way for extreme joy and happiness for millions of infertile couples- more than 4 million babies worldwide have been conceived by this technology to date.

Meanwhile, criticism of the pregnancy grew increasingly extreme. Religious groups denounced the two scientists as madmen who were trying to play God. Medical ethicists declared that in vitro fertilization was the first step in the process of development of artificial wombs and baby farms!

The history of in vitro fertilization demonstrates how easily people accept new technology once it's demonstrated to be safe. It also suggests that the nightmares predicted during its development almost never come true. This is a lesson for us to keep in mind as we debate whether to pursue other promising yet controversial medical advances, from genetic engineering to human cloning. Yet many couples hesitate to take the IVF option. They say they face a moral or ethical dilemma. By consenting to conception in lab petri- dish outside human body, would they be going against God's plan?

The Catholic Church has opined: "Assisted reproduction dissociates the sexual act from the procreative act. IVF might be a practical solution, but the couple needs to consider its moral implications. Religions normally encourage scientific development, but differ with science on moral issues. Science, for instance, is not concerned with the morality of the atom bomb explosion".

The Muslim cleric Maulana Wahiduddin Khan offers the Islamic viewpoint. " A test-tube baby goes against the whole fabric of God's Creation. It is against the spirit of Islam", But he adds that there are exceptions to the rule.

According to Swami Nikhilananda Saraswati of the Chinmaya Mission, he says "there is nothing adharmic or unethical about assisted reproduction. Since time immemorial, man has used his ingenuity to procreate; ancient literature is replete with such stories. Sage Agastya took birth outside his mother's womb, in a pot. So what's wrong with a test tube baby? The jiva waiting to be born will get a chance to come into this world and enjoy parental love and care,".

The usefulness of this new medical technology called IVF has been debated many a times. Because besides being brilliantly used, it has been abused, as every technology is. We approve when a woman in her 30s who otherwise couldn't conceive does so through in vitro fertilization, but we hit back when the same technology is used for a 60 year-old who tries to do the same. As Edwards himself noted in the early 1970s , just because a technology can be abused, does not mean that we should not try to develop new technology. Electricity is a fantastic innovation yet it has lead to the invention of the electric chair. Does that mean that electricity is not good for us?

It is for us as academicians to learn the art of this new science, use it by following the best clinical practices and for the right indications, avoiding any abuse of this wonderful technology and doing what is ethically right.

Chhaya Patel's (name changed) daughter Mehek was born after she and her husband underwent four years of IVF treatment. "Scientists can create flesh and blood, but breathing a soul in that body is entirely God's prerogative, whether in a womb or in a lab." This is so true. Many scientists forget that they are only the means by which a creation is made, they are not the creators themselves.

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